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# 2006 ARMY MODERNIZATION PLAN

## PURPOSE

The *2006 Army Modernization Plan* (AMP) describes how Army efforts are supporting transformation by improving current capabilities and developing new ones using a comprehensive and balanced approach. This document complements The Army Plan by describing the modernization and investment strategies adopted to enhance the current Army modular force, reset the rotational force and sustain the required levels of readiness while pursuing critical capabilities for the future force. Along with the *Army Science and Technology Master Plan*, it provides the rationale and justification for the research, development, and acquisition (RDA) portion of the Army's program in support of the Fiscal Year (FY) 2007 President's Budget. The AMP conforms to Army leadership guidance, found separately in the *2006 Army Posture Statement*, the *Army Strategic Planning Guidance*, and the Army Campaign Plan. Specifically, the *2006 Army Modernization Plan* updates Congress on the Army modernization program by:

- Describing the current and future strategic environment in which we are transforming and modernizing;
- Describing the Army's transformation efforts and the progress to date;
- Describing the key accomplishments and remaining challenges to the Army's modernization and investment strategies;
- Communicating FY07 budget priorities required to prevail in the ongoing war on terrorism, sustain our global commitments, preserve the needed investment to transform, and field an improved future force; and
- Providing information on selected programs that are critical to the Army's efforts to enhance capabilities of the current force. Modernization must be fully coordinated, balanced and synchronized across the critical requirements within the doctrine, organizations, training, materiel, leadership and education, personnel, and facilities construct. Annexes A through F separately discuss each of these essential areas.

The AMP comes with a glossary of frequently used acronyms. The AMP is also found on the web at <http://www.army.mil/features/MODPlan/2006>.

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# 2006 ARMY MODERNIZATION PLAN

## EXECUTIVE SUMMARY

### **Committed Abroad and at Home while Transforming for the Future**

The Army is actively engaged at the forefront of the continuing global war on terrorism and committed, along with our sister Services in the Joint Force, to the primary mission of protecting U.S. security interests at home and abroad. In addition, the challenges we face while supporting the emerging democracies in Iraq and Afghanistan continue to play a decisive role in Army operations. Army forces, both the active and reserve components, spearheaded the tremendous response and recovery to recent natural disasters, including Hurricanes Rita and Katrina. From aiding civil authorities and citizens at home to combating insurgents and training indigenous friendly forces, the Army is directly serving the nation's needs across a broad and demanding spectrum.

During the sustained and widespread commitment of the past year, the Army has also successfully progressed in its greatest transformation and restructuring since World War II. The concept of the Army's modular conversion was first announced in early 2004, and since then major structural change has taken place and continues, with the end result being a force that is more powerful, flexible and deployable to meet operational requirements. This fundamental restructuring affects the entire force and represents enduring change that will make the Army more ready than ever to sustain today's commitments and be postured for tomorrow's uncertainties. The Army's modular force is already in

the field performing critical missions, and it will be the foundation for a future force that continually evolves in the coming years to apply technological advances and incorporate lessons learned.

The Army Plan continues to integrate the Future Force Capstone Concepts, the Army Modular Force, Army Force Generation (AR-FORGEN), Future Combat Systems (FCS) and Network Enabled Battle Command initiatives to ensure our Army remains the preeminent land power and our Soldiers have the capabilities they need to win in any scenario. Rather than a destination achieved by a materiel solution, The Army Plan provides a path of continuously improving capabilities designed to field a force of adaptive and innovative Soldiers, led by experienced leaders, organized into deployable elements and enabled by leading-edge technologies to assure its dominance in any environment.

The Army deployed today, both overseas and at home, is the basis for meeting our commitments and maintaining essential readiness to respond to all missions assigned. The Soldier, imbued with a Warrior Ethos, remains the foundation of our force and the indispensable centerpiece of the Army's contribution to the overall Joint Force. Our Soldiers place the mission first, exhibit the determination to never accept defeat, quit or leave a fallen comrade, and to view the profession as a dedication to guarding our freedoms and American way of life. The recruiting, training, equipping, leading, and supporting of these Soldiers are the enduring tasks of our Army

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and the solemn commitment of the nation as a whole.

To protect Soldiers and improve their capabilities, the Army continues to balance its efforts to provide the best training and equipment possible while continuing to develop future capabilities. Past modernization and transformation efforts resulted in significant improvements in individual Soldier protection and enhanced individual and unit capabilities. Today, the Army is building on these and the modular force initiatives to ensure that the nation has the force it needs today and the force required to meet tomorrow's challenges. The Army's component of the FY07 President's Budget (PB07) reflects these efforts as well as the results of the Army's participation in the Joint Capabilities Integration and Development System (JCIDS) to produce a campaign-quality Army with the joint and expeditionary capabilities needed for the Joint Force and the nation's overall security.

## Accomplishments and Priorities

In PB07, we prioritize our efforts based on the Army mission to provide necessary forces and capabilities to the Combatant Commanders in support of the National Security and Defense Strategies. To achieve this goal, the Army is accelerating its ongoing transformation, which will result in a total redesign and significant improvement of the operational Army. Support and resources provided by Congress and the Department of Defense (DOD) have already created substantial progress and momentum in this process, and continued support is essential to ensure success in meeting current and future demands. Since the *2005 Army Modernization Plan*, the Army has:

- Built on the previous budget submission and Future Years Defense Plan (FYDP) and continued to place the highest prior-

ity on sustaining our global commitments and especially on supporting those forces deployed on the front lines in Afghanistan and Iraq. Additionally, the Army has refined and adapted its plans, processes, and initiatives to incorporate lessons learned from those operations and improve overall readiness. The second priority remained the focus on transforming the Army and modernizing its capabilities for the future by implementing. The Army Plan links modular force conversion and the development of the FCS, which is the Army's most important investment and modernization program.

- Equipped deployed Soldiers with the best materiel solutions and available training to provide both protection and the capabilities to ensure mission success. Priority has been given to providing the latest in force protection equipment available, including individual Soldier interceptor body armor. This force protection improvement, along with greater situational awareness and improved training techniques has reduced the ratio of casualties to attacks from improvised explosive devices (IED). The Rapid Fielding Initiative (RFI) is a key instrument for accelerating the fielding of the latest off-the-shelf technology to Soldiers. By the end of FY07, the entire operational Army will have been equipped using this program. In addition to RFI, the Army has continued to use the Rapid Equipping Force (REF) process as a means of accelerating items that are critical to meeting more immediate operational requirements.
- Bolstered force protection to Soldiers by enhancing the protection levels of tactical wheeled vehicles they operate. The Army has:

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- Accelerated production and fielding of up-armored HMMWVs
  - Provided add-on armor to over 26,000 other tactical wheeled vehicles in the operational theater
  - Added enhanced armor for the Bradley Fighting Vehicle, the M113 Armored Personnel Carrier, and the Stryker armored vehicles in Iraq
  - Restored funding and increased production of the Armored Security Vehicle as an improved means of conducting local patrolling and protecting road convoys
  - Accelerated the fielding of a Cupola Protective Ensemble to protect exposed gunners
  - Installed aircraft survivability equipment (ASE) and additional ballistic protection on all deployed aircraft.
  - Improved situational awareness and prevention capabilities by fielding large quantities of unmanned aerial systems (UAS), both tactical and small-sized, to the theater of operations. Each of these efforts are augmented and coordinated with the Joint IED Defeat Organization to counter evolving enemy threats.
  - Continued the reset process to restore units returning from operations to a desired level of combat effectiveness and readiness for future missions. Reset incorporates efforts to reconstitute, re-capitalize, replace losses, and reorganize units through Congressional supplemental appropriations that bridge past and future annual budgets. The operational demands on equipment has been at a rate up to eight times that of normal peacetime tempo, and the reset requirements will extend for at least two years after the end of hostilities in order to be prepared for future contingencies.
  - Implemented a significant portion of the modular restructuring initiative to produce increased combat power that is more flexible and responsive to the regional Combatant Commanders. In 2005 and 2006 the overall pace of modular conversion increased to involve 24 maneuver brigades, six division and corps headquarters, and 39 Support Brigades across both active component (AC) and reserve component (RC). Eventually this conversion process will create a rotational pool of 70 Brigade Combat Teams (BCTs) and over 200 Support Brigades across the AC and RC. This restructured force will also serve to posture the Army for future transformation efforts.
  - Initiated a temporary 30,000 increase in Army end strength to support the modular conversion initiative. End strength will return to 482,400 by 2011 once planned efficiencies in operational and institutional Army units are completed. By 2008, the Army is executing a plan to increase its active duty operational force by 40,000 to a total of 355,000 Soldiers to support the modular force.
  - Completed in 2005, the successful validation, fielding, and operational availability of the 172nd Infantry Brigade in Alaska as the third Stryker Brigade Combat Team (SBCT). The unit was deployed to Iraq in fall 2005. The Army also increased the fielding plans for the SBCTs to a total of seven BCTs by 2008, to include one scheduled for deployment to Europe in summer of 2006.
  - Continued with the rebalancing/restructuring of over 100,000 positions throughout all components and establishing RC tran-

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sient, trainee, holder and student (TTHS) accounts. This restructure will enhance capabilities of Army modular formations and increase the number of units able to conduct long-duration stability operations. This will reduce stress on high-demand/low-density units such as civil affairs and psychological operations. By adding the personnel reductions in Soldier requirements that are created by military-to-civilian conversion, Base Realignment and Closure (BRAC), and rebalancing, the Army creates approximately 15,000 Soldier positions within the operational force without increasing end strength.

- Implemented the ARFORGEN model for achieving a more predictable and structured progression of readiness for AC and RC units. ARFORGEN ensures fully trained and equipped forces are prepared for every operational deployment. All units follow a deployment cycle of one year deployed out of every three years for AC, and one in six years for RC. Concurrent with the transition, the RC mission shifts from that of strategic reserve to one of an available operational force. To best support these mission, the Army has developed a new equipping strategy that devotes resources and equipment to meet future mission requirements in accordance with ARFORGEN established priorities and without regard to component of the force being equipped.
- Refined and reaffirmed The Army Plan that links the modular force initiative and the FCS program that is developing leap-ahead capabilities and net-centric operations. These initiatives are occurring while the Army remains fully engaged in the global war on terrorism. FCS is the Army's major and most critically important modernization program and the underpinning of our overall plan for transforming

and modernizing our ground forces over the next 30 years. Several improvements occurred:

- In April 2005, the Secretary of the Army directed the restructuring of the contractual framework for FCS into a more conventional Federal Acquisition Regulation-based arrangement to help promote best business practices and improve program oversight.
- In June, FCS completed an important Defense Acquisition Board in-progress review, which validated the progress and direction of the program to date.
- In August, FCS underwent a functional review of its system of systems.
- In September, the Army highlighted the accomplishments to date by publicly demonstrating some of the actual FCS technology at Aberdeen Proving Grounds and at Fort Dix.
- In November, the Defense Acquisition Executive approved the new program baseline.
- Progressed with the aviation restructuring approach announced after termination of the Comanche in 2004. Specifically, the Army awarded a contract in August 2005 for the building and delivery of 368 Armed Reconnaissance Helicopters from 2006 to 2013 to provide a reconnaissance and light attack capability. This procurement will complement other helicopter acquisition and recapitalization initiatives to upgrade the overall quality and quantity of the Army aviation fleet.
- Coordinated the Army modular conversion, the Integrated Global Presence and Basing Strategy (IGPBS), and the BRAC processes into a plan to station and flag

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active component divisions and BCTs to match changes in the security environment. This plan will involve the permanent restationing of over 150,000 Soldiers and 200,000 family members by FY11.

- Implemented initiatives that will increase the numbers of Army Special Operations Forces (ARSOF) to configure these units to sustain a long-term campaign against global terrorism. ARSOF is becoming more self-sufficient and developing forces that better integrate with modular conventional forces.
- Initiated a reengineering of Army business practices to improve efficiencies to reform processes, divest outmoded practices, and increase responsiveness in providing trained and equipped forces to the Combatant Commanders. The Army is using Lean Six Sigma methods in this overall process to free resources to better support the warfighting side of the Army.
- Implemented personnel programs that improved the quality of life and the Army's support for deploying Soldiers and their families. These included:
  - Army One Source, a program for providing a ready source of information and support to active and mobilized reserve Soldiers and their families.
  - The Army Deployment Cycle Support program to assist them in meeting the challenges of reintegration.
  - The Residential Communities Initiative and Barracks Modernization Program to improve both family housing and Soldier barracks. Almost 50,000 housing units have been privatized and 32,000 additional units are planned. Two-thirds of the scheduled barracks modernization has been accomplished

with almost \$2 billion being invested in the current program for this important initiative.

## Highlights of the FY07 President's Budget

The *2006 Army Modernization Plan* is submitted in conjunction with the release to Congress of PB07, which supports an Army engaged at war; and committed to disaster relief, reconstruction, homeland security, and continued support for transformation of the Army into a more capable and modular force. Specifically, the Army's portion of the PB07 submission provides funding for:

- Maintaining emphasis on improving the readiness of the current force by devoting \$13.8 billion in FY07-11 to the recapitalization of systems in this force. This includes both rebuild recapitalization—returning the system to the original design capabilities—and upgrade recapitalization—rebuilding the system and enhancing its capability. Additionally, by supporting efforts in the reset program, it serves to restore readiness for future missions for units involved in recent operations. The reset program is financed primarily through supplemental funding, which is directly tied to operational deployments of forces in Iraq and Afghanistan.
- Allocating over \$29 billion from the Army Modular Force reserve toward the total modular conversion of 70 BCTs and their associated Support Brigades.
- Implementing a revised equipping strategy that recognizes the operational role of RC forces and increases funding significantly to \$20.8 billion over the FYDP to equip Army National Guard (ARNG) and \$3.8 billion to equip the U.S. Army Reserve (USAR).

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- Providing \$2.7 billion to complete the fielding of seven SBCTs by 2008.
  - Spinning out modern technologies to the current force as rapidly as advancements are developed from the FCS program. The previous restructuring in 2004 of the FCS program provided savings of \$9 billion for this purpose.
  - Leveraging joint, Army component, academic, and industry efforts to take advantage of technology to support the operational Army and the warfighter. Focus science and technology (S&T) investment of approximately \$9.1 billion in the development of capabilities needed in the future force through the appropriate spin out of technologies and systems into the current force.

# 2006 ARMY MODERNIZATION PLAN

## STRATEGIC FRAMEWORK

### Strategic Environment and Global Posture

The United States is a nation at war and involved in a struggle to defeat enemies who threaten our survival and way of life. The strategic environment has changed significantly since the end of the Cold War, and events since 11 September 2001 dramatically demonstrated that we have entered a new era of conflict with different challenges to overcome. Most apparently today, the environment is characterized by a serious threat from dangerous anti-United States and anti-Western transnational Islamic terrorist groups seeking to target U.S. and allied interests worldwide. Although traditional challenges will remain, new and unforeseen ones have emerged that require increased capabilities and require the

Army to adapt force structure and methods to deal with them. The current strategic environment now includes the growth of failed and failing states, non-state actors, the danger of states with newly acquired weapons of mass destruction (WMD), and potentially hostile states employing asymmetric means. All of these factors represent not only the imperative for the military and Army to change, but also influence the method by which changes take place.

Within this new strategic environment, Operations Enduring Freedom, Noble Eagle and Iraqi Freedom have been major undertakings by the United States and have involved a significant commitment of Army forces as part of multiple joint operations (Figure 1). Today's Army is truly a global force.

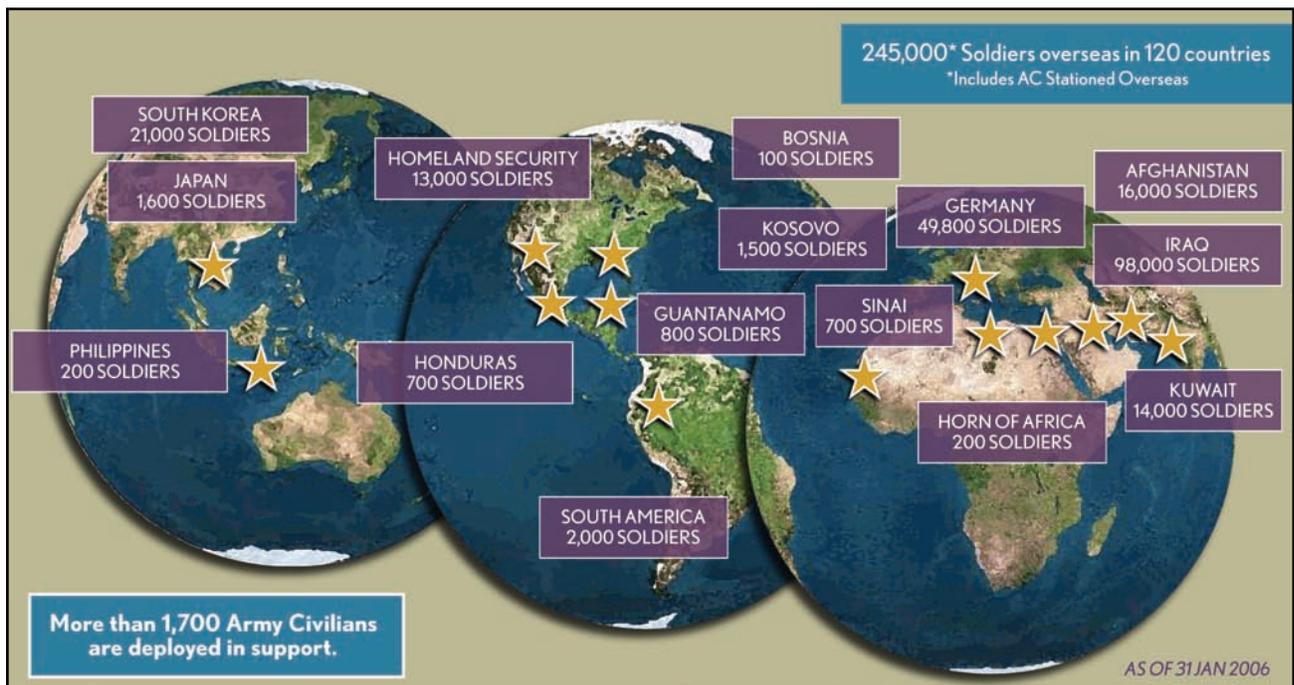


Figure 1. Army Global Commitments

Stability operations assume a significant role in the use of Army forces as well. These operations have provided valuable insights concerning the changing operational environment, the adaptability of our enemies, and the complexity of challenges within the new strategic environment. The lessons learned from ongoing operations confirm the critical importance and required level of involvement of all Army components and our supporting civilian elements.

The emergence of irregular challenges and the requirements of post-conflict operations have stretched the U.S. military. Current trends toward regional and global integration may render interstate war less likely, but stability and legitimacy of conventional political orders are vital to U.S. interests. New actors, methods and capabilities will challenge the United States, our interests, and our alliances during this long struggle.

### Persistent and Emerging Challenges

The National Defense Strategy (NDS) has advanced a typology of four new types of emerging security challenges—irregular, traditional, catastrophic, and disruptive—to which the nation will have to respond.

The four persistent and emerging challenges and their definitions are depicted in Figure 2 and capture many of the issues in the new strategic environment. Their boundaries are neither precise nor discrete and in some situations will overlap, may occur simultaneously, or offer no easily discernible transition from one challenge to another.

To achieve success against these challenges, we must be capable of operating across the spectrum of conflict in a wide variety of conditions. We must rapidly transition between missions with appropriate force mix and capabilities. We must integrate activities in joint, interagency and multinational environments in order to address more diffused and networked adversaries by integrating all elements of national power—diplomatic, informational, military, and economic—in a more interconnected security environment within a global strategy. We must also invest in preparedness for scientific and technological breakthroughs that may fundamentally alter conditions in the battlespace. Doing so will mitigate the risk of our adversaries exploiting breakthrough technologies to the detriment

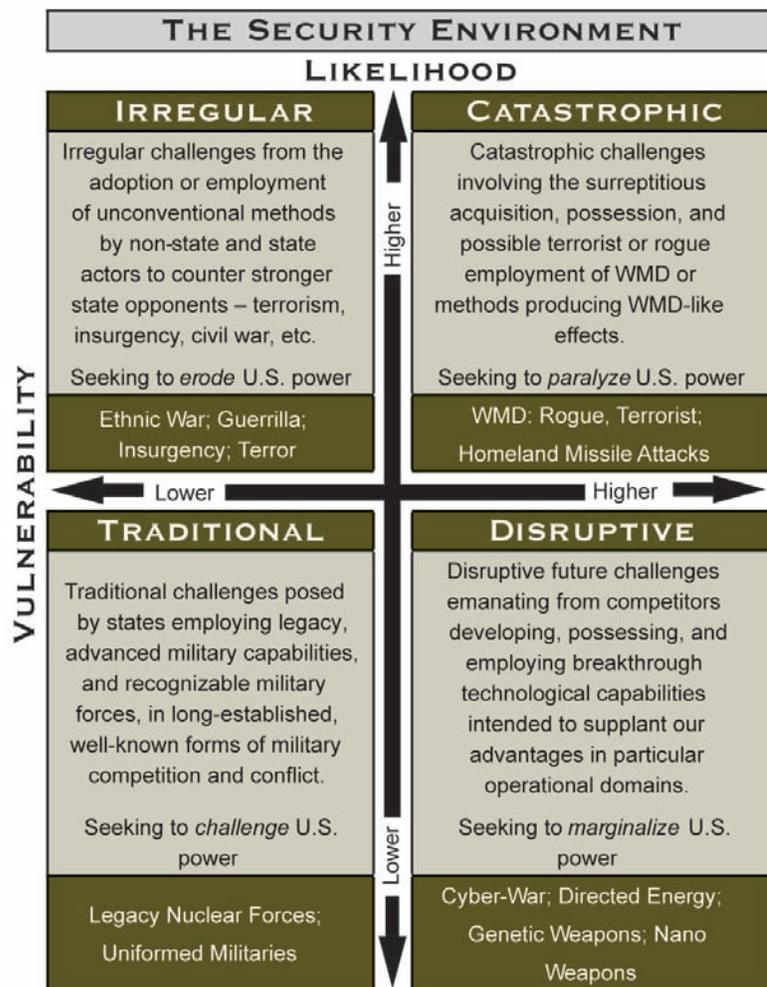


Figure 2. The Security Environment

of our operational and logistical systems and processes.

## Transformation as a Strategic Imperative

To ensure U.S. forces continue to operate from a position of overwhelming military advantage when dealing with these challenges we must embrace the present new realities. First, the United States will be increasingly challenged by a diverse and dangerous set of potential adversaries ranging from rising regional powers to terrorist movements and irresponsible regimes unbounded by accepted restraints governing international behavior. Second, it is unclear how long the United States will be involved in stabilizing Iraq. Third, the world looks to the United States for leadership in a

crisis—to the point of risking inaction without our participation. Finally, in many instances, only the United States has the requisite capabilities to effect enduring resolutions and acceptable outcomes for complex crises. The future Joint Force must retain a quality of adaptive dominance—the ability to dominate any situation regardless of how an adversary reacts. This adaptive quality requires a future force with embedded versatility and adaptive Soldiers and leaders who can master the critical variables organic to the future “complex” environment. The primary challenges of this complex environment are summarized in Figure 3.

## The 2006 Quadrennial Defense Review

To address these challenges, in September 2002 a new National Security Strategy (NSS)

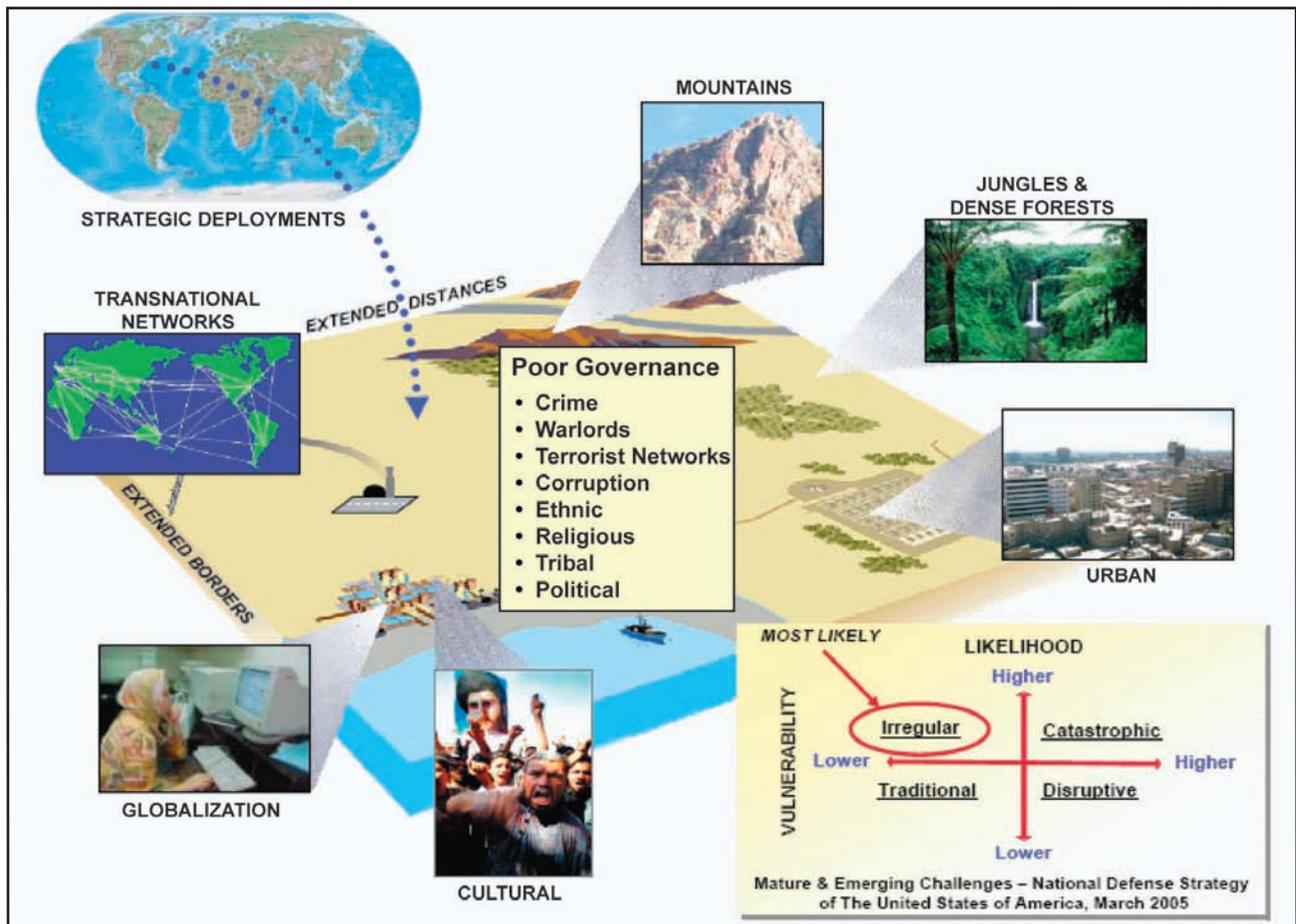


Figure 3. Complex Operating Environments

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was published to provide a foundation for current operations as well as vision to meet future challenges. In March 2005, DOD published the National Defense Strategy (NDS) that attempts to reach the goals set forth in the President's strategy by extending U.S. influence, prosperity and goodwill while preserving the nation's security. In May 2004, the Chairman of the Joint Chief of Staff signed the National Military Strategy (NMS) to describe how the Defense Department was going to achieve the "ends" listed in the NSS and NDS. Finally, In February 2006, the congressionally mandated Quadrennial Defense Review (QDR), tasked DOD to define a defense strategy during the conduct of the global war on terrorism and continuing operations in Afghanistan and Iraq. The 2006 QDR includes force structure and programs required to implement that strategy at low-to-moderate risk over the ensuing 20 years. The QDR's principal purpose was to develop guidance for operationalizing the National Defense and National Military Strategies and shaping the future force informed by the assessment of four focus areas:

- Building partnerships to defeat extremism
- Defending the homeland in-depth
- Shaping the choices of countries at strategic crossroads
- Preventing the acquisition or use of weapons of mass destruction by hostile state or non-state actors

The Army must change its center of gravity in terms of strategic context, going from an organization focused on the major combat operations (MCOs) to increased focus on the challenges of irregular warfare (stability operations, global war on terrorism, and homeland security/homeland defense). This movement from the MCO as the center creates risk that

must be mitigated through the Army's interdependence on the Joint Services.

The 2006 QDR also recognized the importance of the Army's efforts to transform for future challenges by increasing both capability and capacity by continuing to:

- Develop modular, multipurpose, brigade-based combat and support forces (elements of joint expeditionary force packages with campaign qualities)
- Develop full-spectrum FCS capabilities
- Explore opportunities to field spirals of advanced FCS capabilities into the current force that are the most applicable for irregular warfare and global war on terrorism environments.

### **The 2005/2006 Army Strategic Planning Guidance: "Ends, Ways and Means"**

The *Army Strategic Planning Guidance* (ASPG), Section I of The Army Plan, is the Army's institutional strategy and serves as its principal long-range planning document. The ASPG expresses the senior leadership's intent for how the Army will fulfill its Title 10 obligations to the Joint Force and the nation in support of and nested under the NDS and NMS.

The ASPG, coupled with the *2006 Army Posture Statement*, helps guide the Army strategy in providing necessary capabilities to the Combatant Commander in terms of "ends, ways and means" (Figure 4). The four interrelated strategies are the "ends" and they explain what the Department of the Army (DA) does to support the NMS. Achieving these strategies is the goal of The Army Plan and ensures we attain the Army Vision. The 17 strategic initiatives are the "ways" the Army encompasses our Title 10 functions. They

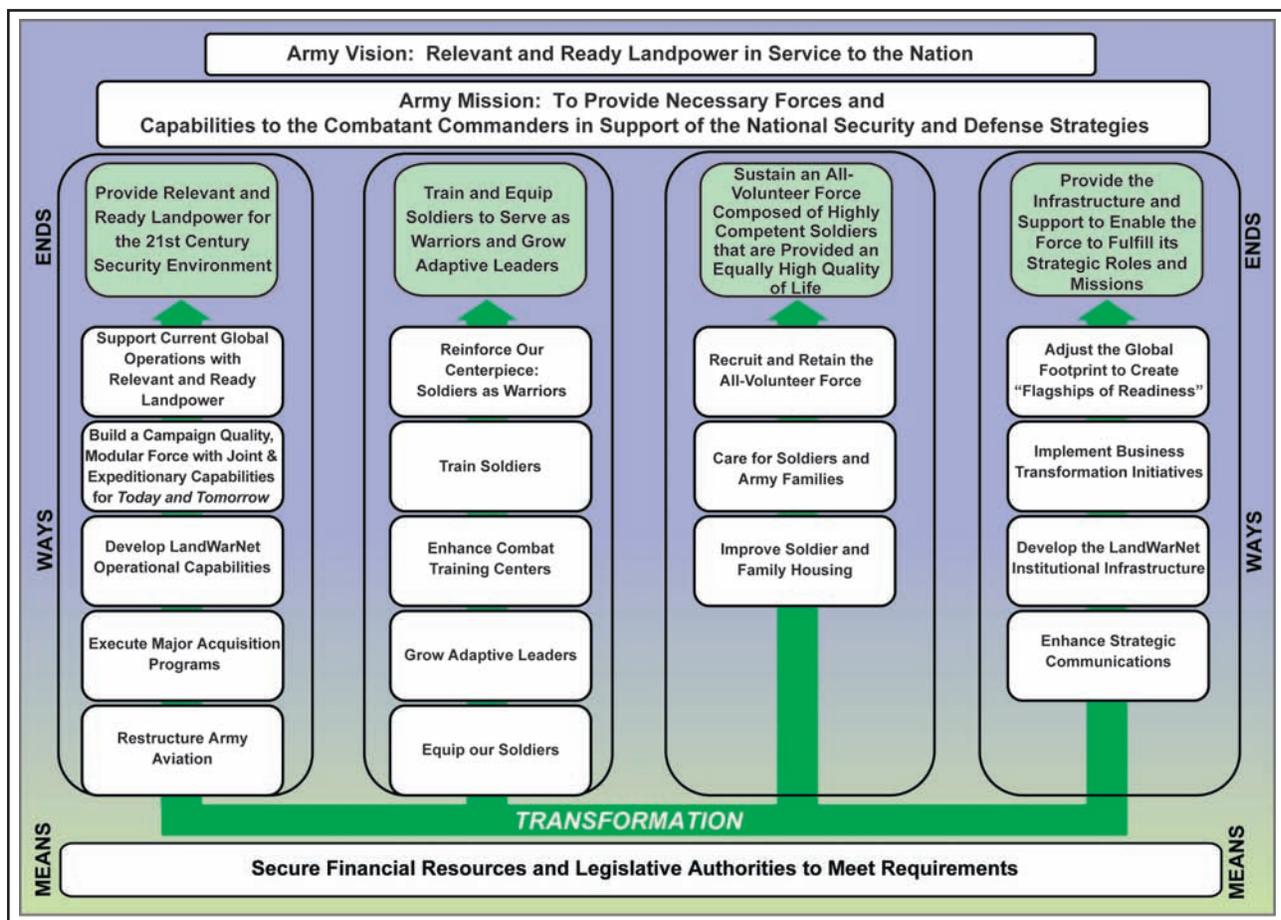


Figure 4. Army Strategy Map

elaborate on how the Army should focus itself to be relevant and ready to meet the challenges of the current and future security environments. The “means” of the Army’s strategy are the resources and authorities the Army uses to perform these functions.

Due to evolution in land warfare and its dynamic and complex nature, the Army will advance and change its scope to maintain effectiveness and relevancy in support of defense and military strategies. The 2006 ASPG will be the result of an intense analysis and review by the Army Staff to provide strategic guidance for the challenges of the 21st century and incorporate guidance from the 2005 NDS, 2006 QDR, the *2006 Army Posture Statement* and 2008-2013 Strategic Planning Guidance (SPG). This consolidated

strategy approach will ensure the necessary success in accomplishing all of the Army’s enduring and emerging military responsibilities.

### Strategic Performance Management

In an effort to transform the Army into a strategy-focused organization and assess its performance against the objectives and priorities outlined above, the Army is evolving the Strategic Readiness System (SRS) into the Strategic Management System (SMS). The new system is adopting the ends, ways, and means construct listed above to establish clear linkages between the objectives/initiatives derived from our strategic documents and the Army’s strategic actions. The ends describe what the Army must accomplish to

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support the NSS, NDS, and NMS. The ways, or processes, define the initiatives, tasks and metrics to assess performance toward accomplishing those objectives while also providing leading indicators for future performance. The means are the resources the Army requires to achieve the ends.

In this manner, the SMS helps the Army balance today's requirement of providing trained and ready forces and capabilities to the Combatant Commanders with the requirement to do so in the future. Sustaining our global commitments is and will remain our highest priority. The SMS provides senior leaders a process to simultaneously monitor sustainment of global commitments and transformation. Transformation objectives are viewed through the lens of the JCIDS process to ensure the Army generates the capabilities required for the Joint Force.

## Joint Concepts, Capabilities, and Interdependencies

The context for developing future military concepts and capabilities is the linkage between how the Joint Force operates today and the vision for the future. The joint concepts and associated capability requirements under development by the Joint Staff, combatant commands and Services influence Army transformation efforts. These concepts are intended to serve as the engine of change to guide the transformation of the Joint Force to operate successfully in the next 10 to 20 years.

Joint concept development includes the following concepts:

- **The Joint Operating Concepts (JOC)** describe how a future Joint Force commander will plan, prepare and conduct specific operations and identify the capa-

bilities required for each. The JOCs are homeland security, strategic deterrence, major combat operations and stability operations.

- **Joint Functional Concepts (JFC)** articulate how the future Joint Force commander will integrate a set of related military tasks to attain capabilities required across the range of military operations. They are broad, but derive specific context from the Joint Operating Concepts. JFCs allow for experimentation and measures of effectiveness.
- **Joint Integrating Concepts (JIC)** are intended to be building blocks for JOCs or JFCs, and will describe how a commander integrates functional means to achieve operational ends. They are anticipated to focus on a narrow portion of a JOC or JFC and further describe capabilities in terms of essential tasks, attributes, and measures of effectiveness and performance that form the means to identify capability gaps and redundancies.

The Army and our sister Services have made significant improvements in the planning and conduct of joint operations, progressing from joint interoperability (the assurance that Service capabilities can work together smoothly) to joint integration (collective efficiency and tempo). Because Army forces conduct operations as an integrated component of a Joint Force and will depend on the capabilities embodied within the Joint Force for its overall effectiveness, the future force will be an interdependent land component of the Joint Force. Although each Service contributes its own unique capabilities to the joint campaign, each dominating its own environment, their operational and even tactical interdependence is critical to overall Joint Force effectiveness. Joint interdepen-

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dence is the purposeful reliance on other Service and joint capabilities to maximize their complementary and reinforcing effects, while minimizing Service vulnerabilities in order to achieve the mission requirements of the Joint Force commander. Joint interdependency forms this shared foundation. Beyond that, joint interdependent projection, protection, support and sustainment will optimize the Services' capabilities to best allow the Joint Force commander to effectively take the fight to a land-based enemy. It also provides the best means of maintaining the right force structure mix capable of meeting the breadth, depth and longevity of the current fight, while still maintaining the necessary focus on threats in the future operational environment. Below are five key joint interdependencies:

- **Joint Battle Command.** Integrated joint battle command/command, control, communications, computers, intelligence, surveillance and reconnaissance (C4ISR) capabilities to gain information superiority, share a common operating picture, enhance joint/integrated information operations, and improve the ability of Joint Force and component commanders to plan, execute and assess operations.
- **Joint Air and Missile Defense.** A comprehensive joint protection umbrella, extended to regional allies, that includes air and missile defense, provides security of ports of debarkation, and enables uninterrupted force flow against diverse anti-access threats.
- **Joint Fires and Effects.** Integrated joint fire control networks that provide more effective application of all source fires and effects, from theater to tactical levels.
- **Joint Force Projection.** Advanced strategic and operational lift capabilities and improved automated planning processes to facilitate strategic responsiveness and operational agility within the battlespace.
- **Joint Sustainment.** A joint-capable logistics community that maintains domain-wide visibility over requirements, resources, and priorities; that delivers capability with speed and precision to meet operational needs of the Joint Force commander; and that acts with unity of effort in the planning and execution of logistics across the joint operations area.



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# 2006 ARMY MODERNIZATION PLAN

## ARMY TRANSFORMATION

### The Army Plan

Transformation is a process that shapes the changing nature of military competition and cooperation through new combinations of concepts, capabilities, people and organizations. These combinations employ the nation's advantages and protect against asymmetric vulnerabilities to sustain the U.S. strategic position, which underpins peace and stability in the world. The Army is pursuing the most comprehensive transformation of its forces since World War II. These transformation efforts are both evolutionary and revolutionary in nature, and they are intended to improve Army and Joint Force capabilities to meet the demanding requirements of a nation at war as well as future full-spectrum requirements.

To ensure we can meet the current and future challenges, the Army has refined its overall transformation strategy and is now executing The Army Plan, which consists of four overarching, interrelated strategies to manage change across the entire DOTMLPF spectrum. The Army Plan is a natural progression from current to future capabilities that improves and modernizes capabilities and transforms organizations in order to provide ready and relevant land power; develops, trains, and equips Soldiers and grows adaptive leaders; sustains the volunteer force by matching the quality of life with the quality of service; and provides the infrastructure and support necessary to ensure successful mission accomplishment. Rather than a destination achieved by a materiel solution, The Army Plan is an orientation or path of continuously improving capabilities, which is

designed to field a force of adaptive and innovative Soldiers, led by experienced leaders, organized into deployable elements and enabled by leading-edge technologies to assure its dominance in any environment.

Our nation remains at war and will continue to be engaged in a long, evolving conflict against learning, adaptive adversaries. Approximately one-fourth of our Army is deployed to protect the nation, and we anticipate that we will sustain similar levels of commitment through the immediate future. Starting in 2004, the Army developed an integrated, executable plan to provide the means for the Army to transform over time while simultaneously meeting its strategic commitments. Army transformation is framed in terms of defense transformation. It occurs from the top down and from the broader needs of joint operations to the more specific needs of the Army. The Army informs its transformation strategy from several sources:

- Defense Strategy and Transformation Planning Guidance.
- A comprehensive joint view of the future operational environment.
- Joint concepts that identify required Joint Force capabilities and interdependencies.
- Operational experience that identifies known shortfalls requiring change and promising improvements to joint and Army operations.

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- Exploration of scientific and technological advances and breakthroughs impacting across operations, intelligence, and logistics domains, and across the continuum from near to far term.

We have accelerated change throughout the Army to enable it to fight a long, continuously evolving conflict, and 2006 marks the high-water level of this activity. Concurrent with developing and executing Army-wide change processes, we are participating in other initiatives that will dramatically shape our future: the QDR, BRAC, and the IGPBS. Along with the opportunities to transform that are afforded by heightened levels of operational commitment and maturation of change processes, we also face important risks as an institution. The DOD and the Army are coming under increasing fiscal pressure as the government responds to rising costs of the ongoing war as well as the domestic demands for hurricane relief and associated reconstruction. Within this constrained environment, attention must be paid to preserve the momentum already achieved in our transformation efforts and build upon them in the future. Some of these recent accomplishments, as well as the upcoming highlights of transformational activities, are summarized in the following sections.

### **Army Transformation in 2005**

In 2005, the Army accelerated its transformation activities through execution of the Army Campaign Plan (ACP), which sets into action the Army's transformation strategy by providing specific objectives, assigning responsibilities for execution, and synchronizing resources. These achievements included:

- Modular conversion of 13 and activation of three BCTs.

- Creation of organizational designs and modular conversion sequences of modular headquarters, Support Brigades, and theater commands that encompass over 70 percent of the Army's operating forces.
- Continued execution of AC and RC rebalancing decisions affecting over 100,000 personnel spaces and execution of those decisions for approximately 31,000 Soldiers.
- Design and implementation of ARFORGEN processes that maximize unit readiness and availability of forces while ensuring greater stability and deployment predictability for Soldiers and their families.
- Implementation and adaptation of Generation Force processes that parallel and complement the work we have achieved for the operational Army.
- Improved synchronization support for near-term warfighter requirements within Army resource processes, to include continued evolution of the RFI and REF.
- Program divestment, restructuring, and business process reengineering decisions equaling \$11.7 billion.
- Publication of Training and Doctrine Command (TRADOC) *Pamphlet 525-3-0, The Army in Joint Operations: The Army's Future Force Capstone Concept 2015-2024*, the Army's overarching visualization of how the future force will support Joint Force commanders in the period 2015-2024.

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## Army Transformation in 2006

In 2006, the Army will execute the following transformation activities:

- Completion of Army modular force structure planning that will incorporate over 90 percent of Army operating forces to include BCTs, Support Brigades, theater commands, operational headquarters, and Special Operations Forces (SOF).
- Execution of our highest density of modular conversion activities within the Army transformation strategy—over one-third of all formations to be converted in a single fiscal year. This action will create modular formations at every echelon of Army structure—another first.
- Initial execution of ARFORGEN—a force management process placing Army operating forces on rotational deployment cycles.
- Publication and execution of Army restationing actions in support of BRAC and IGPBS.
- Initial execution of QDR recommendations.
- Continued execution of AC and RC rebalancing decisions affecting over 100,000 personnel spaces and execution of those decisions for approximately 55,000 Soldiers.
- Initial implementation of Lean Six Sigma processes throughout the Army staff.
- Identification and initial implementation of substantial structural changes to the institutional base of the Army.

- Initial integration of joint capabilities areas (JCAs) planning into Army doctrine development.
- Publication of an Army Generating Force capstone document that complements TRADOC Pamphlet 525-3-0.

The global war on terrorism provides a fleeting window for the Army to transform organizationally, materially, and culturally. As units return from overseas deployments, they must take time to rest and regenerate their combat capabilities—a period we call reset. With the support of Congress, the Army is using this reset period to reorganize to more effective, modular formations. This enables the Army to transform organizations for future operations instead of merely resetting them. This process ensures that the Army meets its two most pressing missions: winning the war and transforming for the future.

### Restoring Readiness

Under the overarching reset program, the Army provides resources to win the fight, transform, modernize and recapitalize. Specifically, reset executes Army activities that return all deployed equipment to fully operational standards, upgrade capabilities implementing Operation Iraqi Freedom and Operation Enduring Freedom lessons learned, reorganize to modular designs in accordance with the ACP and ARFORGEN, replace obsolete equipment in prepositioned stocks, and reconfigure Army prepositioned stocks to be more strategically relevant and responsive. Congressional support in the form of supplemental appropriations ensures that returning Army formations are transformed in an effective and structured manner to support future operations.

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As units begin to redeploy from operational theaters, the Army will continue to set the force to meet future requirements. The goal is for all returning active duty units to achieve a sufficient level of combat readiness within six months of their equipment's arrival at home station. RC units will take longer to achieve their desired level of readiness, and the goal for them is to reestablish readiness within one year. These reconstitution efforts—involving people, equipment, and training—will culminate with a certification exercise to ensure the ability to meet near-term Combatant Commanders' requirements.

A final equipping initiative that has been integrated where possible into the reset process is the Army's ongoing recapitalization effort. Recapitalization, which is the rebuild and selected upgrade of currently fielded systems to ensure their operational readiness, aims at improving unit effectiveness and warfighting capability, extending service life, and reducing operating and support costs. Because the need to recapitalize systems is significant and exceeds available resources, the Army has focused on selected units and prioritized systems.

## **Balancing Current and Future Readiness and Capabilities**

Congruent with Office of the Secretary of Defense (OSD) risk-management directives, the Army frames the constant change of transformation through the interaction of the continuously evolving capabilities of the current to future force. The current force is today's operational Army. The Army organizes, trains, and equips the current force to conduct operations as part of the Joint Force. The current force's operational experience, insights from joint concept development, experimentation processes, and science and technology allows the Army to rapidly improve capabilities

of the current force while informing future force capabilities.

The future force is the operational force the Army continuously seeks to become. It is the strategically responsive, joint interdependent, precision maneuver force that will be dominant across the full range of military operations envisioned in the future global security environment. The Army accelerates promising future force capabilities into the current force to reduce risk to our Soldiers today.

Prior to the events of 11 September 2001, the Army assumed greater risk in the current force as it built toward the future force. Due to operational experiences associated with the global war on terrorism, the Army shifted resources to reduce operational risk and improve the capabilities of the current force. Through FY05, the Army rebuilt the balance between sustained warfighting requirements and transforming to meet future challenges. Balancing current and future force transformation requires careful determination about when and how we introduce change into the force. Too much, and we destabilize our formations. Too little, and we deny our Soldiers the most promising capabilities.

To manage this process, the Army has developed a comprehensive strategy that accelerates critical capabilities to our fighting forces while continuing to build a campaign-quality future force with joint and expeditionary capabilities. The FY06-11 FYDP was the first program plan to transition the Army to a war footing and to include programmed development of transformational capabilities. The program changes and risk mitigation measures in the FY07-11 plan continue the balancing trend of sustaining Army transformation initiatives while ensuring current readiness (Figure 5).

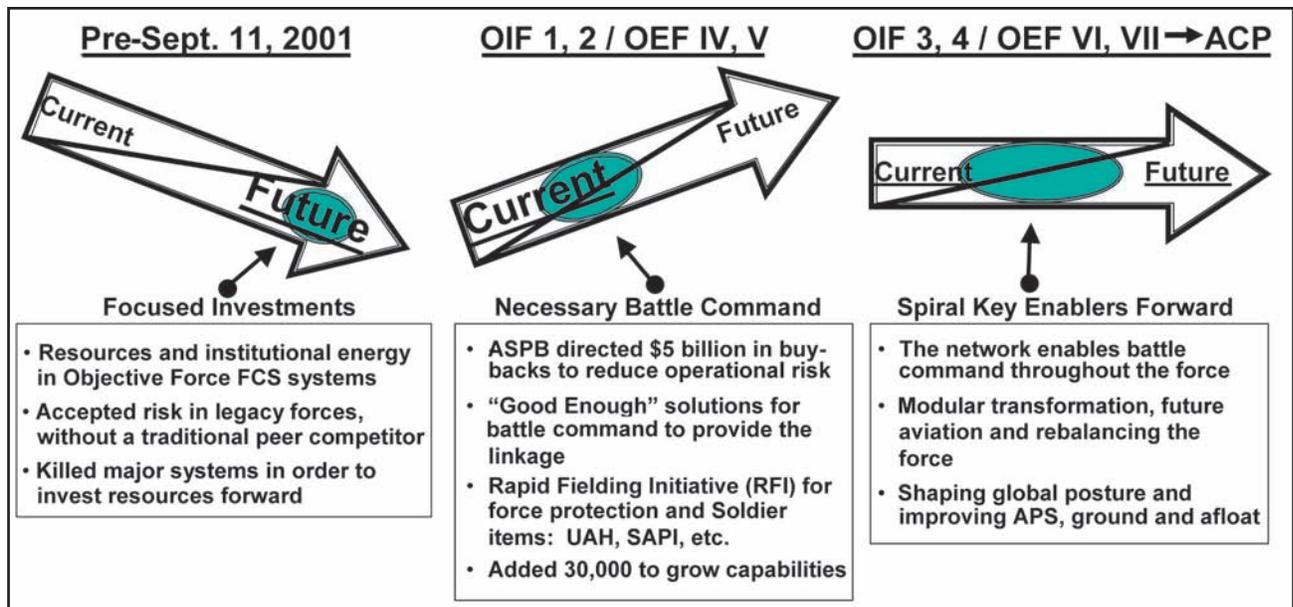


Figure 5. Programming Balance

## Campaign-Quality Army with Joint and Expeditionary Capabilities

Our continuing missions demonstrate the Army’s unique durability, versatility and ability to control land, people and resources. The Army maintains a nonnegotiable commitment to fight and win this nation’s wars. An essential component of this commitment is the Army’s ability to sustain operations and establish suitable conditions necessary to achieve favorable resolution of conflicts. This requires the Army to sustain and adapt its operations. This is the Army’s preeminent challenge today. The Army must reconcile expeditionary agility and responsiveness with staying power, durability and adaptability to achieve victory.

The Army must also remain aware that its forces are integral components of the Joint Force. Each Service excels at employing a wide variety of capabilities within specific domains—land, sea, air, space and cyber—to create overwhelming dilemmas for our enemies. Current and future challenges in the operational environment demand unprec-

edented levels of joint interdependence. This interdependence is a purposeful reliance by the Army on its sister Services to maximize complementary and reinforcing effects while minimizing individual service vulnerabilities.

The prerequisites of this common commitment to interdependence are broad understanding of the strengths and limitations of each Service’s capabilities, clear agreement about how those capabilities will be integrated during operational employment, and the absolute mutual confidence that capabilities will be employed as intended. The Army is implementing close collaboration with other Services and joint organizations as it develops doctrine and capabilities that foster joint interdependence. Further, the Army is building joint-capable organizations at lower organizational levels to make joint interdependence a reality.

## Modular Reorganization

Not only must the Army sustain decisive operations for as long as necessary to allow for political favorable resolution, Army forces must also be ready to adapt to changes

across the range of military operations and against adaptive adversaries. To maximize force effectiveness, the Army is reorganizing to a modular, brigade-based force to achieve three primary goals:

- Increase the number of available BCTs to meet operational commitments while maintaining combat effectiveness that is equal or better than that of previous divisional BCTs.
- Create combat and support formations of common organizational designs that can be tailored to meet the varied demands of the regional Combatant Commanders—reducing joint planning and execution complexities.
- Redesign organizations to perform as integral parts of the Joint Force—making them more effective across the range of

military operations and enhancing their ability to contribute to joint, interagency, and multinational efforts.

This modular conversion is a total Army effort affecting nearly every combat and support organization in our inventory (Figure 6). Most combat formations and headquarters will be completed by 2008; theater Army headquarters will be completed by 2009, and Support Brigades will be completed by 2011.

Though quickly implemented in response to the global war on terrorism, these organizational changes are a well-measured response. Organization designs are consistent with concepts and methods of operation articulated within the Army's TRADOC Pamphlet 525-3-0, *The Army in Joint Operations: The Army's Future Force Capstone Concept, 2015-2024*, but these designs are tempered by the tech-

BRIGADE-BASED ARMY								
	AC	ARNG	USAR		AC	ARNG	USAR	
<b>Force Application</b>				<b>Protection</b>				
Brigade Combat Team (BCT) Total	42 *	28 *		Combat Support Brigade (Maneuver Enhancement) (CSB(ME))	3	14 *	2	
Heavy Brigade Combat Team (HBCT)	18	6		Engineer Brigade (EN)	4	8 *	4	
Stryker Brigade Combat Team (SBCT)	6	1		Military Police Brigade and Criminal Investigation Detachments (MP/CID)	4	2		
Infantry Brigade Combat Team (IBCT)	17	21		Internment/Resettlement Brigade (I/R)		1	3	
Armored Cavalry Regiment (ACR)	1			Air Defense Brigade	4	2		
Special Forces Group (Airborne) (SFG(A))	5	2		Chemical Brigade (NBC)	1 ***	1	1	
Civil Affairs Brigades (CA)	1		8	Criminal Investigation Detachment (CID)	2			
Psychological Operations Groups (PSYOP)	1		2	National Missile Defense Brigade (NMD)		1		
Ranger Regiment	1							
Combat Aviation Brigade (CAB) Total	11	7		<b>Focused Logistics</b>				
CAB (Heavy)	6	2		Sustainment Brigade (SUST)	13	9	8	
CAB (Medium)	4			Ordnance Group (Explosive Ordnance Disposal (EOD))	2	1		
CAB (Light)	1			Quartermaster Group (Petroleum, Oil, and Lubricants (POL))	1		3	
CAB (Air Expeditionary)		5		Regional Support Groups		17	25	
Theater Aviation Brigade	1	5	1	Medical Support Command	4		10	
Special Operations Aviation Regiment (SOAR)	1							
Fires Brigade	6 *	7 *		<b>Battlespace Awareness</b>				
Information Operations Group	—	TBD	—	Intelligence Brigade (MI)	8	1		
				Electronic Warfare Group (EW)	2			
				Battlefield Surveillance Brigade (BFSB)	3	2		
<b>Command and Control</b>								
Army Service Component Commands	9 **							
Corps	3			<b>Miscellaneous ****</b>				
Division	10	8		Financial Management Center (FMC)	2		5	
Signal Brigade	7	2	1	Space Brigade	1			

\* Structure decisions still in progress as of 25 FEB 06.      \*\*\* Does not include Homeland Defense capabilities  
 \*\* 5 Theater Army Headquarters      \*\*\*\* Training units and other Soldier support functions to be captured  
     3 Functional ASCCs      in Army Campaign Plan  
     1 Non-modular Army Headquarters (EUSA)

Figure 6. Army Operating Forces Modular Conversion

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nological capabilities that are reasonably available within the near term. Standardized and enhanced battle command capabilities that improve joint interdependency and situational awareness enable this change. Networked battle command, improved intelligence, and robust target acquisition systems enable our Soldiers to fight for and maintain information superiority with faster speeds of command, enhanced self-synchronization between units, and dramatically improved combat effectiveness. See Annex B of the *2006 Army Modernization Plan* for organizational details.

### **Restructuring the Force**

As the Army creates modular capabilities, it is also restructuring for a more effective mix between AC and RC forces. The goal is to enable the AC to support the first 30 days of an expeditionary operation in order to reduce short-notice involuntary call-ups of RC forces. The rebalancing effort also establishes conditions where the Army has sufficient depth of forces across the AC and RC to support sustained operations while providing predictability for Soldiers and families. In FY05, the Army restructured almost one-third of the over 100,000 personnel spaces to be rebalanced. Through FY06, the Army will reach the halfway point of restructuring as it seeks to rectify imbalances within the force.

Despite these changes, the Army will remain challenged to meet anticipated requirements. The President and Congress alleviated much of this stress by providing us with a temporary 30,000 Soldier increase in our AC operating strength. In September 2005, the Army revised downward the period of time that it estimated it could afford to maintain a 512,400 force. To further grow the operational forces within the Army during a period of declining budgets and manpower authorizations, we

are conducting a Total Army Analysis (TAA) process to design 482,400 AC and 555,000 RC forces that appropriately balance risk.

This updated TAA and its aggressive restructuring effort will boost the operating force by 40,000 Soldiers over the next six years. These 40,000 spaces will be freed by personnel policies that gain efficiencies in the institutional base.

### **Army Posture**

The Army is also adjusting its global force posture to meet the needs of Combatant Commanders. We are taking steps to accelerate our strategic responsiveness while simultaneously reducing our overseas footprint and exposure. To enhance its strategic responsiveness, the Army is improving its ability to rapidly deploy to austere fighting environment, fight on arrival throughout the battlespace, and sustain operations until victorious. A few of the initiatives to improve responsiveness are:

- Establishing a comprehensive ARFORGEN process to provide Combatant Commanders and civil authorities with rapidly deployable and employable Army forces.
- Resetting Army prepositioned equipment sets into modular configurations.
- Building modular capabilities that improve theater force reception and deployed logistics.
- Identifying and improving infrastructure at critical power projection installations to increase support for mobilization, demobilization, and rapid deployment.
- Updating institutional processes to prepare forces for rapid deployments and to

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support forces in sustained expeditionary operations.

Parallel with Army efforts to improve responsiveness, the Army is repositioning its ground forces to meet a unit rotation model that is synchronized to ARFORGEN. These efforts include Army support of BRAC and IGPBS efforts. We are stationing forces in the United States based on the critical factors of training resources and power projection. In Europe and the Pacific, we will maintain smaller forward-presence forces while stationing more agile and expeditionary forces to respond to contingencies. In the Middle East and elsewhere, we will maintain rotational presence while eliminating many of our permanent bases. See Annex B of the *2006 Army Modernization Plan* for Army posture for BCTs and Support Brigades.

### Army Force Generation

The new strategic context of continuous operations renders unrealistic the old Army readiness paradigm of “all ready, all the time.” Continuous full-spectrum expeditionary operations are the new reality. To meet this new strategic context, the Army is developing a process of force generation to provide Combatant Commanders and civil authorities rapidly deployable, employable, and sustainable force capabilities packages tailored to specific mission requirements. Implementation of ARFORGEN cuts across the entire Army. While having a profound effect on operating forces, ARFORGEN also shapes the ways the institutional base executes Army Title 10 and executive agent functions.

ARFORGEN leverages modular unit designs and operational cycles to provide a sustained deployment posture of operationally ready units in predictable patterns. The process retains the capability to surge combat power

for major combat operations. The ARFORGEN process assists commanders to identify predictable deployment windows and manage readiness and training of forces accordingly. These windows are based on the objective cyclic rotation rates of AC and RC forces: one deployment in three years for the AC, and one deployment in six years for the RC.

The ARFORGEN process creates operational readiness cycles where individual units increase their readiness over time, culminating in full mission readiness and availability to deploy. Manning, equipping, resourcing, and training processes are synchronized to the ARFORGEN process. To achieve the readiness progression required by operational readiness cycles, units transition through three ARFORGEN-defined readiness pools:

- **Reset/Train:** Units recover from previous deployments, reconstitute, reset equipment, receive new equipment, assign new personnel, and train to achieve the required unit capability level necessary to enter the READY force pool.
- **Ready:** Units are assessed as ready to conduct mission preparation and higher-level collective training with other operational headquarters for upcoming missions. These units are also eligible to fill operational surge requirements, if necessary.
- **Available:** Units that are within their assigned window for potential deployment. Units will be sourced against operational or contingency requirements.

Like pieces of a puzzle, ARFORGEN is a necessary complement to ensure that modular force conversion, restructuring, and restationing initiatives achieve the Army’s objective to be a campaign-quality, joint and expeditionary force. Modular Army formations stationed at

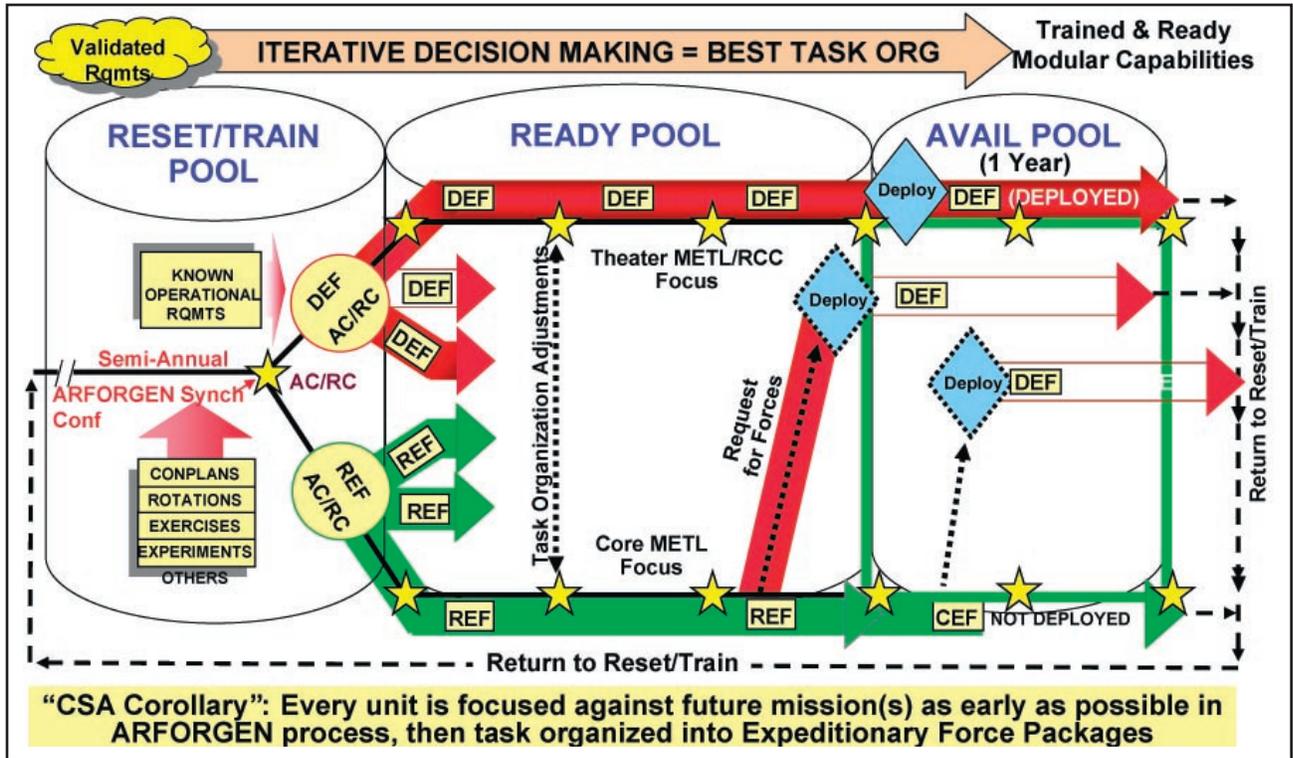


Figure 7. ARFORGEN

UNITS	FY10 Force Mix	RESET / TRAIN FORCE POOL	READY FORCE POOL	AVAILABLE FORCE POOL
Operational HQs	19			
AC BCTs	HVY 19 SBCT 6 INF 17 <b>42</b>	HVY 5 SBCT 2 INF 4 11	HVY 8 SBCT 2 INF 7 17	HVY 6 SBCT 2 INF 6 <b>14</b>
RC BCTs	HVY 6 SBCT 1 INF 21 <b>28</b>	HVY 3 SBCT 1 INF 10 14	HVY 2 SBCT 0 INF 7 9	HVY 1 SBCT 0 INF 4 <b>5</b>
AC Support Brigades	CAB 11 SUSTAIN 13 FIRES 5 BFSB 3 CSB(ME) 3	CAB 3 SUSTAIN 3 FIRES 1 BFSB 1 CSB(ME) 1	CAB 4 SUSTAIN 6 FIRES 2 BFSB 1 CSB(ME) 1	CAB 4 SUSTAIN 4 FIRES 2 BFSB 1 CSB(ME) 1
RC Support Brigades	CAB 7 SUSTAIN 17 FIRES 7 CSB(ME) 14	CAB 4 SUSTAIN 9 FIRES 4 CSB(ME) 7	CAB 2 SUSTAIN 5 FIRES 2 CSB(ME) 6	CAB 1 SUSTAIN 3 FIRES 1 CSB(ME) 2
<b>Increasing Unit Readiness</b>		Not Ready or Available for MCO ≈ 17% - 25% of AC ≈ 50% of RC	Surge Capability ≈ 42% - 50% of AC ≈ 33% of RC	Available or Deployed ≈ 33% of AC ≈ 17% of RC
* Force Pool Distribution Rules:		AC: 1/4 RC: 1/2	AC: 5/12 RC: 1/3	AC: 1/3 RC: 1/6

Figure 8. ARFORGEN

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power projection platforms are pooled into force packages under ARFORGEN to make expeditionary operations easier to plan and execute. Restructuring across the AC and RC optimizes the entire Army to the right capabilities packages for sustained operations. Implementing these interlocking concepts will relieve stress on the force, provide time to train, create more predictable deployment schedules, and enable the Army to maintain a continuous supply of ready land power to Combatant Commanders and civil authorities.

### **Life-Cycle Management**

Over the past two years, the Army has implemented an improved manning system that enhances unit readiness by increasing stability and predictability for Soldiers, commanders, and families. The Army created a personnel life-cycle management program for AC BCTs that complements the new rotation-based system of global force management. These personnel systems and life-cycle management increases stability for individual Soldiers and their families by retaining them at their assignments longer. Second, life-cycle management synchronizes Soldiers' assignments to their units' operational cycles, providing more capable, deployable, and prepared formations.

### **Transforming the Way We Do Business**

The Army is aggressively seeking ways to prioritize our limited resources to meet our most strategically significant requirements while increasing our individual and organizational productivity. To accomplish this, the Army is transforming the way we do business by adapting many components of its existing processes, to include:

- Adapting the institutional base of the Army in terms of roles and resources to gain efficiencies and simultaneously applying personnel savings from this restructuring to increase capabilities in the operating force.
- Increasing the productivity of business processes to minimize the impact of fiscal pressures and emerging requirements. Enhanced productivity results from re-forming value chains while simultaneously divesting non-core functions.
- Improving the level of proficiency of our organizational leaders to implement disciplined and measurable approaches to reduce waste and streamline organizations—following Lean Six Sigma and other best practices.

Business transformation will follow an aggressive schedule, with Lean Six Sigma deployment across the Army starting in FY06. By applying these techniques, the Army will develop a competitive advantage required by our operational environment. In short, we can eliminate waste and focus on providing trained, equipped, educated, experienced, and manned forces to the Combatant Commanders.

### **Life-Cycle Management Commands**

In conjunction with the these current and future efforts to realize efficiencies, boost productivity, and enhance readiness through business transformation, the Army's materiel community has already made significant progress in better integrating the materiel development and sustainment processes. Historically, almost 70 percent of a system's total costs were incurred once the system had entered the operations and sustainment phase. As a result, decisions made during

design and development place an enormous impact on the overall cost, sustainment, and readiness of items introduced into the Army inventory.

In August 2004, the Assistant Secretary of the Army for Acquisition, Logistics and Technology (ASA(ALT)) and the Commanding General, Army Materiel Command (AMC) established Life-Cycle Management Commands (LCMCs). Their purpose was to integrate more effectively the Army's acquisition, logistics and technology (AL&T) communities, and introduce a more holistic and long-term approach to system acquisition and management.

Compliant with the Goldwater-Nichols Department of Defense Act of 1986, LCMCs integrate AL&T responsibilities and authorities into a closer working relationship between AMC's major subordinate commands and their respective program executive officers (PEO) and program managers (PM), controlled by the Army Acquisition Executive, without compromising oversight. Each LCMC is focused on supporting a specific family of materiel (aviation, ground systems, electronics and ammunition), and fosters a more collaborative and agile framework that tailors the capacities of a more synchronized sustaining base to the unique needs of each program. (Figure 9)

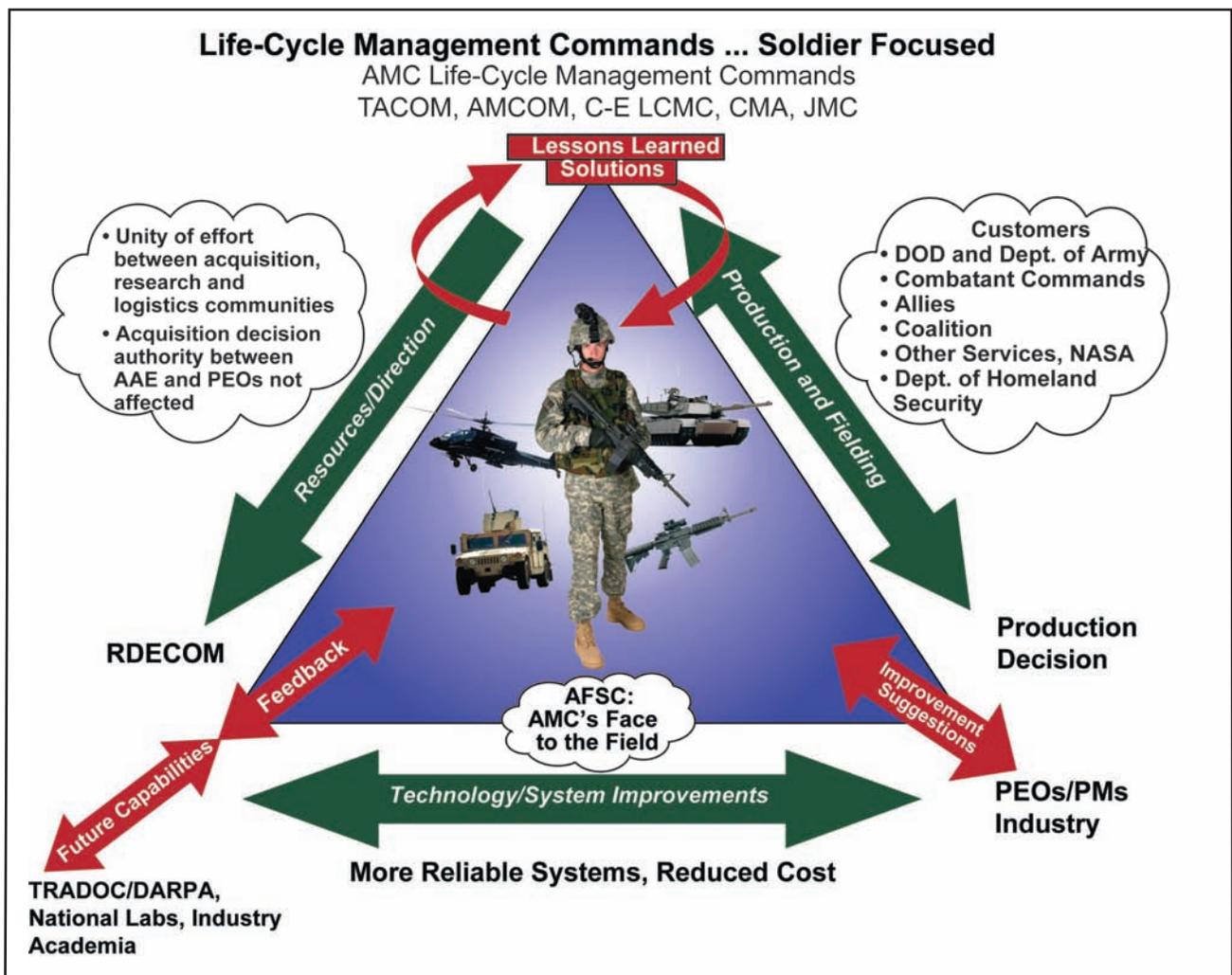


Figure 9. Life-Cycle Management Commands

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## LCMC Objectives

- Ensure responsiveness to the warfighter
- Improve coordination among AL&T processes
- Integrate significant elements of AL&T leadership responsibilities and authority
- Improve system supportability and minimize life-cycle management costs

LCMCs benefit the Army by improving the balance between performance and sustainment throughout a system's entire life cycle. In addition, this realignment of responsibilities accelerates the responsiveness of the entire materiel community by providing Soldiers with a single entity that can reach across the entire sustaining base and quickly addresses their needs with one voice. Overall, this initiative complements other ongoing transformational activities by contributing to more consistent and higher levels of force readiness.

## Accelerating Change within the Current Force

Over the past two years, the Army has significantly accelerated the tempo of transformation. The Army continues to adapt the resource processes so they become more flexible, dynamic, transparent and responsive. Soldiers remain the centerpiece of our formations. Their immediate demands are urgent, and fielding capabilities in the near term may outweigh preserving longer-term stability in existing programs.

The Army is changing almost every aspect of its resource process. The Army generates requirements by looking at them from a joint context to ensure these requirements are congruent with DOD transformation efforts. We are also placing more emphasis on the

needs of engaged commanders—fulfilling immediate, unprogrammed requirements while balancing resources to ensure long-term viability of the force. Finally, the Army is dramatically accelerating acquisition processes to meet the needs of Joint Force commanders today.

Through the Rapid Fielding Initiative (RFI), the Army is purchasing and fielding state-of-the-art equipment at an unprecedented pace. Examples are full fielding of improved body armor to all Soldiers operating in Afghanistan and Iraq, advanced thermal sights and personal equipment, and a variety of state-of-the-art mission-essential items. Congressional support for regular budget and supplemental spending requests enables the Army to put this improved equipment in the hands of Soldiers.

Also with this support, the Army continues to field innovative technology solutions directly to operational commanders through the Rapid Equipping Force (REF). Such innovative solutions include a variety of robotic systems and other technologies used in high-risk searches, technologies to counter improvised explosive devices, and extensive improvements in the armor protection of armored and light-skinned vehicles. Typically the REF cycle is measured in weeks—sometimes days—from field commanders articulating a requirement to the Army providing a solution.

The accelerated fielding of selected capabilities through a spiral process will also include technical refreshment and continued development and fielding of new capabilities associated with mature systems in the acquisition process. This includes fielding of additional SBCTs; RFI to equip Soldiers with increased lethality, force protection, survivability, and squad communications; fielding of systems to retain and improve situational dominance

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through comprehensive and joint-interoperable C4ISR architectures—Warfighter Information Network-Tactical (WIN-T), the Joint Tactical Radio System (JTRS), and the Distributed Common Ground System-Army (DCGS-A); fielding of Patriot/Medium Extended Air Defense System (MEADS) to augment cruise missile defense; fielding of digital battle command capabilities through systems such as the Force XXI Battle Command, Brigade and Below (FBCB2) and others; accelerating crew protection and ASE initiatives and adding an additional 825 helicopters as well as accelerating unmanned aerial systems.

### **Future Force Capabilities Embodied in the Future Combat Systems**

The primary goal of Army transformation is development of the future force. This force will be balanced across a mix of light, medium, and heavy formations and will be optimized for strategic versatility. Further, the Army is designing the future force to expand the options available to Joint Force commanders amidst the frequently changing requirements of the emerging operating environment. Future force attributes, capabilities, and operational themes are defined in TRADOC Pamphlet 525-3-0.

The foundation of our future force is the FCS-equipped BCT, though there will also be an array of FCS-enabled HBCTs, IBCTs, and SBCTs that will comprise the entire force. FCS is a comprehensive modernization program internal to Army transformation that will provide the joint team with responsive full-spectrum abilities to succeed in both regular and irregular environments. The Army will provide dominant land power to the Joint Force commander well into the future, but future enemies and anti-access strategies will increasingly exploit our vulnerabilities unless we take action now. The FCS is the

Army's primary transformation program to increase capabilities and reduce or eliminate vulnerabilities in the future force. Current force capabilities such as the SBCT are optimized for small-scale contingencies, but the FCS-equipped BCT may conduct early-entry major combat operations with significantly less operational risk.

The new way of fighting with the FCS-equipped BCT is to see first, understand first, and act first to finish decisively. With four times more reconnaissance platoons in the brigade, plus the intelligence analysts and enhanced battle command network, the modular brigade can develop the situation before becoming decisively engaged by the enemy. Leaders will know where their friendly forces are located, where the enemy is located, and the best way to maneuver to accomplish the mission. The network enables the brigade and battalion commanders to rapidly change plans and issue new instructions to seize opportunities on the battlefield without losing command and control of their forces. Subordinate units are better equipped to "self-synchronize," or act on their own initiative in accordance with their commander's intent because they understand what is going on. A RAND study has validated these tenets of net-centric operations in the modular Stryker brigade. Most important, the common operating system on the network will dramatically improve the interoperability among maneuver, intelligence, fire support, engineer, air defense and service support information systems, requiring significantly less time to train Soldiers to use improvised solutions to share information. Improved communications will enable leaders to have full battle command capability while on the move, improving the speed and agility of our forces in the attack. The organic unmanned systems will collect more information about the enemy and reduce risk to Soldiers. The Non-Line-of-Sight Cannon (NLOS-C) increases

the flexibility of fire support to support troops in combat. In addition to materiel systems, the Army has made the organizational, doctrinal and leader development steps necessary to exploit the full potential of FCS capabilities and network-enabled modes of operation.

FCS remains at the heart of the Army's strategy to mitigate risk using the current to future force risk construct (Figure 10). The Army used the BCT operational and organizational plan as the starting point to create a modular, brigade-based Army. Through its modular conversion efforts, the Army is rapidly moving the current force to the characteristics envisioned for the FCS-equipped BCT. In turn, this will enable BCTs to quickly transition to FCS-equipped BCTs and FCS-enabled methods of operation. Further, the modular

design improves current force effectiveness and reduces operational risk.

At the same time, the Army is accelerating promising technologies into the current force to improve the current force's survivability; intelligence, surveillance, and reconnaissance; and joint interdependence. Just as emerging FCS capabilities enhance the current force, the current force's operational experience informs the FCS program, further mitigating future challenges and force management risks.

### FCS Components and Capabilities

Future Combat Systems includes 18+1+1 systems consisting of unattended ground sensors (UGS); two unattended munitions, the Non-Line-of-Sight Launch System (NLOS-LS)

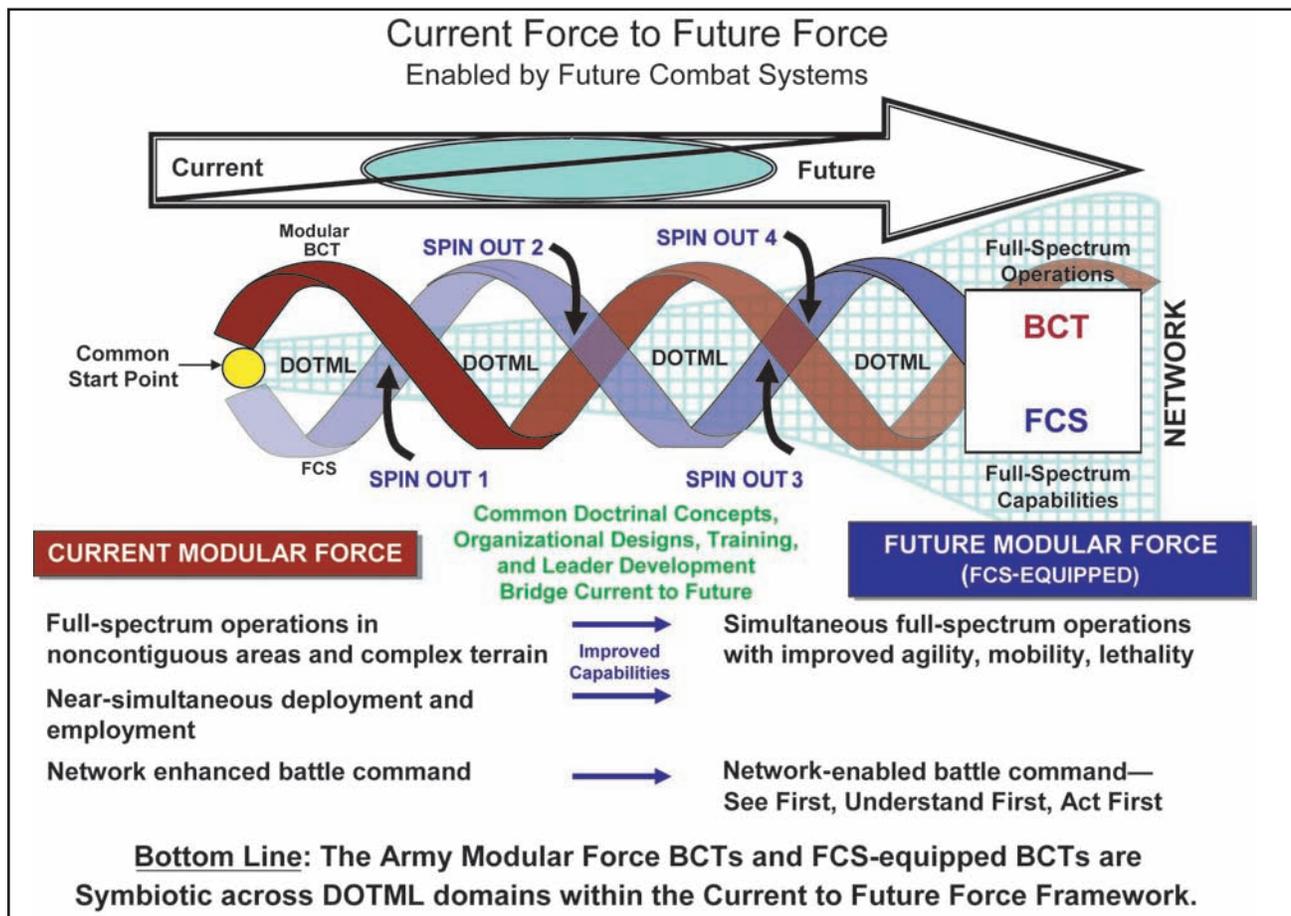


Figure 10. Risk Adjudication

and Intelligent Munitions System (IMS); four classes of unmanned aerial vehicles (UAVs) organic to platoon, company, battalion and BCT echelons; three classes of unmanned ground vehicles, the Armed Robotic Vehicle (ARV), Small Unmanned Ground Vehicle (SUGV), and Multifunctional Utility/Logistics and Equipment Vehicle (MULE); and the eight manned ground vehicles (18 individual systems); plus the network (18+1); plus the Soldier (18+1+1) (Figure 11).

FCS is the fastest and surest way to modernize the Army. The FCS-equipped BCT will consist of three FCS-equipped combined arms battalions; an NLOS-C battalion; an armed reconnaissance squadron; a forward support battalion (FSB); a brigade intelligence and communications company (BICC); and a Headquarters company. The FCS-equipped BCT will be the Army's future tactical warfight-

ing echelon, a dominant ground combat force that complements the dominant joint team. Although optimized for offensive operations, the FCS-equipped BCT will have the ability to execute a full spectrum of operations. FCS will improve the strategic deployability and operational maneuver capability of ground combat formations without sacrificing lethality or survivability.

FCS will use evolutionary acquisition to develop, field, and upgrade FCS throughout its life cycle. On 22 July 2004, Army officials announced plans to accelerate the delivery of selected Future Combat Systems to the current force. The Army will accelerate fielding of select FCS capabilities (called spin outs) to reduce operational risk to the current force. The plan expands the scope of the program's system development and demonstration (SDD) phase by adding four discrete "spin

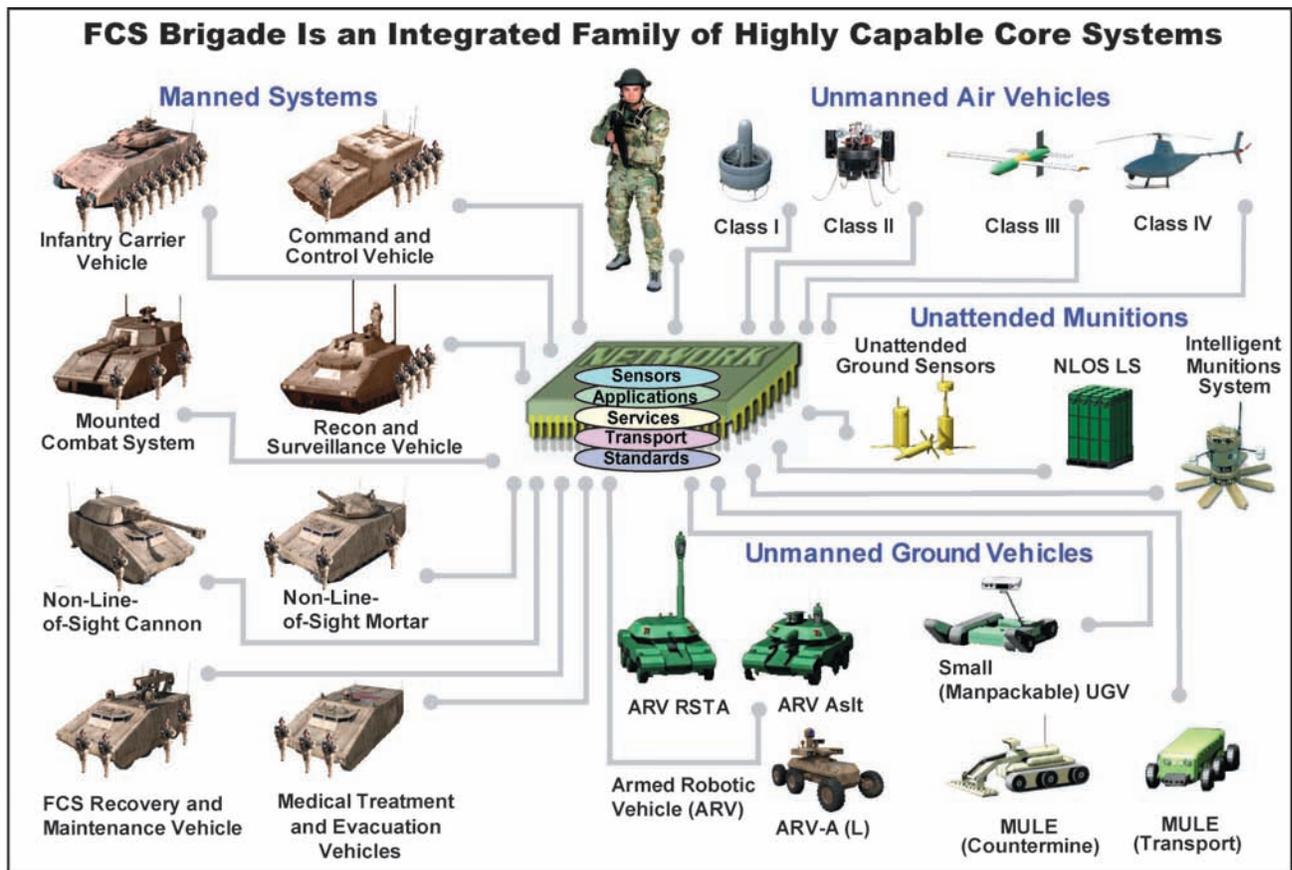


Figure 11. FCS Network

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outs” of capabilities at two-year increments for the current force. Spin Out 1 will begin fielding in FY08 and consist of prototypes fielded to the evaluation BCT (EBCT) for their use and evaluation. The EBCT will be an existing HBCT which will be used to test and evaluate FCS capabilities to determine if suitable for later fielding to current force units. Following successful evaluation, production and fielding of Spin Out 1 will commence to current force units in FY10. This process will be repeated for each successive spin out. By FY14, the Army force structure will include one BCT equipped with all 18 + 1 FCS core systems and additional BCTs with embedded FCS capability. The program fields a combined arms battalion in FY14 and a full-up BCT by FY17. This is the focal point of this adjustment: providing the current force with FCS capability sooner rather than later. (For more information on spin outs, see section “Inserting New Technologies and Capabilities” and Figure 15 on pages 40-41.)

FCS is now in the SDD phase. The FCS acquisition program was approved by the Defense Acquisition Board (DAB) in May 2003. FCS has been designated a Joint Services program with an Army and Marine

Joint Program Office (JPO) established. Its future capabilities will, therefore, significantly enhance all U.S. land power.

### **Integrated Network**

The Army’s FCS network allows the FCS family of systems to operate as a cohesive system of systems where the whole of its capabilities is greater than the sum of its parts. As an integral part of the Army’s transformation, the network and its logistics and embedded training systems enable the future force to employ revolutionary operational and organizational concepts. The network enables Soldiers to perceive, comprehend, shape, and dominate the future battlefield at unprecedented levels as defined by the FCS Operational Requirements Document.

The FCS network consists of four overarching building blocks: system-of-systems common operating environment; battle command software; communications and computers; and intelligence, reconnaissance and surveillance systems. The four building blocks synergistically interact enabling the future force to see first, understand first, act first and finish decisively.

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# 2006 ARMY MODERNIZATION PLAN

## ARMY MODERNIZATION

### Modernization Strategy—Balanced Modernization

Modernization is a continuous process of integrating new DOTMLPF solutions to develop and field capabilities for the Army to provide to the Joint Force in NDS, NMS and all assigned missions. Modernization activities are facilitated and optimized by sound modernization and investment strategies that are specifically designed to implement the Army's transformation process. The modernization and investment strategies also establish common terms of reference for all modernization activities and, very importantly, provide clear priorities and focus for the allocation of resources for equipment expenditures. The overall Army modernization strategy remains focused on providing those capabilities necessary for the Army forces deployed and at war today—the current force—that is the foundation of the Army's strategic commitment to the nation, while simultaneously supporting a transformation process to ensure that those capabilities essential for the future are being developed. The investment strategy in support of modernization describes the process used in deciding how to allocate monies across competing priorities in order to obtain the best capability for each dollar spent. In this regard, integrated system-of-system architectures are analyzed to provide the underpinning technical data needed to make sound decisions on capability investment strategies.

In support of the overall goal of maintaining and improving the readiness of today's Army while also transforming to a more responsive

and capable force, the Army has developed a coordinated and comprehensive strategy toward the goal of equipping and reorganizing forces. This strategy can be described best as one of "balanced modernization," which seeks to develop and field combat-capable units through an appropriate mix of significant organizational restructuring into more modular units, insertion of new capabilities where and when feasible, selective procurement and fielding of new equipment (modernization); and restoring and preserving readiness of current equipment (reset), including the rebuilding and upgrading of key existing equipment through recapitalization. Overall, Army modernization efforts are placed into two fundamental categories:

- **Modernization:** the development and fielding of improved operational capabilities through a combination of organizational restructuring into modular formations, the insertion of new technologies into existing systems and units, and/or the procurement of new systems with improved capabilities. All of these measures must be complemented by effective Soldier and leader training and education in order to reach their full potential.
- **Reset:** the restoration and/or preservation of the combat readiness of units, returning from or preparing for operational deployments, through the repair or replacement of end items, parts, assemblies and subassemblies that are worn or broken; essential retraining and application of lessons learned; and readjustment of prepositioned stocks of equipment and

munitions. Incorporates recapitalization, which is the rebuild and selected upgrade of currently fielded systems.

The modernization strategy (Figure 12) also consists of the following two components, which help define a clearer focus for its implementation:

- Maintaining and enhancing capabilities of the current force to meet all strategic and operational requirements. This includes restoring and improving the readiness of units returning from or preparing for operations; the major initiative underway to restructure units into more responsive and capable modular formations; the continued fielding of immediate operational

capabilities by organizing and equipping seven brigade-sized units outfitted with a family of internetted Stryker combat vehicles and other state-of-the-art, off-the-shelf technologies; and the accelerated effort to insert into existing systems and units, where feasible, newly developed capabilities derived from emerging technologies.

- Science and technology efforts to enable timely fielding of the future force (in particular FCS, which will be the foundation of that force) and to identify promising technologies and selected new, mature capabilities that can be fielded to current units through the process of iterative developments and insertions.

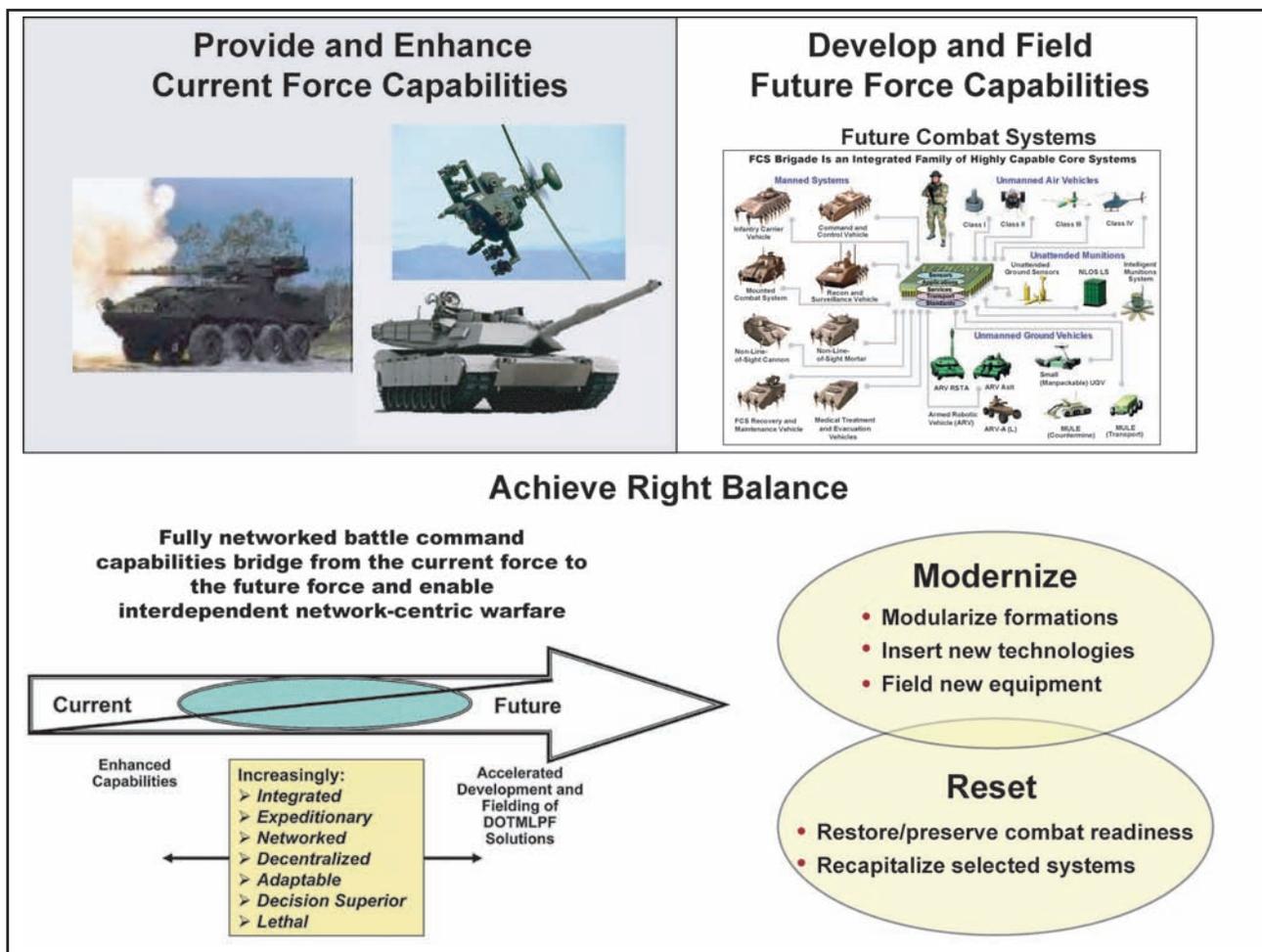


Figure 12. Balanced Modernization

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The specific details of respective plans and programs and the balance within and between these two components as reflected in PB07 is the result of a dynamic and ongoing reassessment of the needs of the nation and the opportunities and resources available—all of which are addressed in The Army Plan. Clearly, the operational environment of a nation and Army at war is of overriding importance in this assessment and has had a direct impact on the changes in the overall modernization strategy, which were foreshadowed by Army initiatives in 2004 and subsequent refinements in 2005. Many of these initiatives, as well as other elements contained within PB07, developed as the result of an intensive process of self-examination directed by the Army leadership in an array of focus areas. A number of major changes, namely the move to modular formations, got underway in the first half of 2004, while other changes are to be implemented in subsequent budget cycles. The key point is that the Army has adapted its approach of balanced modernization—embedded within The Army Plan—and in light of lessons learned from recent operational experiences.

### **Integrating across the DOTMLPF to meet Warfighter Requirements**

The Army's transformation process includes a comprehensive examination of the interrelationships among doctrine, organizations, training, materiel, leadership and education, personnel, and facilities. As the Army fields new capabilities to the current force and evolves into the future force, it must optimize investments by ensuring the proper synchronization between DOTMLPF requirements and DOTMLPF solutions.

Transforming the Army has placed new demands on how leaders and Soldiers are managed throughout the force. With over one million Soldiers geographically dispersed

across the world, the Army's personnel community is developing new tools that will ensure the right Soldiers with the right skill sets are assigned to the proper units in a timely manner to ensure combat readiness. Enhanced personnel databases, leveraging web-based technologies, and implementing best business practices are examples of how the Army intends to improve the management of its military and civilian personnel. The increased operational demands have also required a re-examination of many long-standing personnel and basing practices, with the result that the Army is transitioning to an improved manning system designed to improve unit readiness by increasing stability and predictability for unit commanders, Soldiers and their families. This will place greater emphasis on building and sustaining cohesive, deployable combat-ready units.

Modernizing the Army with new systems and equipment is a critical undertaking that consumes vital and limited resources. Only by ensuring that equipment fielding is integrated and synchronized with total requirements can the Army be assured that resources are being used in a wise and cost-effective manner. The annexes to the *2006 Army Modernization Plan* provide a comprehensive and succinct review of the progress being made in modernizing across the DOTMLPF as the Army continuously transforms itself from the current to the future force.

### **Modernization Priorities**

To achieve readiness of the force over time, the Army prioritizes its investment of limited resources in accordance with DOD guidance reflected in the Strategic Planning Guidance and Joint Programming Guidance, and further defined in The Army Plan, and in response to current operational requirements. There are two major categories of investments for

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the Army—equipping and restructuring the current modular force, and developing and equipping the future force. Lately, there has been a significant shift in prioritization and emphasis as a result of the demands of the global war on terrorism. The first priority for the Army is to successfully pursue this war, which includes the requirement to maintain and improve the readiness of the current force. To do this, the Army is focusing on equipping Soldiers, resetting units returning from and preparing for deployments, and restructuring into modular units that will be available to support operational requirements in the ongoing war.

The next and related priority is to strengthen the Army's contributions to joint and combined warfighting capabilities by fielding new systems, inserting new technologies and capabilities into existing systems, fielding the capabilities of the SBCTs, and modernizing into future formations. Army SOF is another force modernization priority because of their unique capabilities and contributions to the Joint Force in the war on terrorism.

Finally, there is an ongoing focus on transforming the Army into a future force with even greater and more relevant capabilities. This transformation is based on the fielding of FCS and associated systems, though it also includes the corollary effort to identify and spin out emerging technologies whenever feasible. As mentioned earlier, in 2005 the Army formally refined and linked the FCS modernization program with the ongoing modular force transformation initiative within the overarching guidance in The Army Plan, which also includes important initiatives to train and educate our Soldiers and leaders. This linkage ensures that the implementation of the plan and its supporting integrated strategies provides for the continual transition and selective improvement of the current force

as the new technologies and capabilities are being developed.

## **Investment Strategy**

For the Army's investment strategy for PB07, the highest priority relates to those actions necessary to maintain essential operational readiness to fight and win the war on terrorism. To do this, the overall Army budget plan focuses on providing the Army's strategic objectives by building capable and modular forces, creating a more ready and relevant Army that is properly balanced among components, and ensuring a more stable and predictable lifestyle for Soldiers and their families. To accomplish this, the Army is prepared to make adjustments in existing lower-priority programs to cover some of the costs of this effort and to identify offsets and efficiencies totaling approximately \$14 billion for the FYDP. The Army still depends to a large degree on congressional support in the form of supplemental appropriations to serve as bridging vehicles for supporting these operational requirements without jeopardizing the essential elements of the ongoing Army effort to fulfill DOD priorities, including transformation.

As part of its efforts to meet the current needs of Combatant Commanders, the Army accelerated transformation into a more capable and modular force. Previous time lines for fielding these new capabilities have been advanced, and the conversion to modular formations initiated in 2004 has been progressing at a steady pace.

Overall, the Army's plan focuses on three important areas that will support the requirements of Combatant Commanders as well as improve the quality of the force:

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- Building a more capable Army by refocusing S&T and procurement to spin out promising technologies into the current force, and by conversion of units to create more responsive, standardized and flexible formations that are better able to support new operational requirements.
  - Building a more relevant and ready Army by rebalancing the AC and RC, restationing through global posture initiatives, supporting global operations, and developing a joint interdependent logistics system.
  - Building a more stable and predictable lifestyle by force stabilization initiatives that will reduce the effects of high deployment and operating tempos and will enhance the quality of life for Soldiers and their families.

## **The Army Modular Force**

The Army today—our current force—is fully committed with over 240,000 Soldiers deployed in 120 countries during the past year. This force includes existing heavy and light divisions and separate brigades, newly fielded SBCTs, and SOF. In 2004, the Army initiated a significant restructuring effort to convert existing units into more modular formations, with the ultimate result being the creation of a rotational pool of 70 BCTs that will increase the flexibility and responsiveness of the current force while also posturing itself for future transformation efforts. This force is the foundation of today's readiness and the Army's contribution to the ongoing operations in the war on terrorism. Because of the urgent requirements of these operations, the Army has placed a high priority on efforts to ensure the readiness of units returning from or preparing for contingency missions. Also, as a result of the immediate demands of these missions, the Army has reexamined its investment

strategy and has accelerated the application of new emerging capabilities into the current formations as soon as feasible. The combination of initiatives to restore readiness, convert units into more modular formations, and insert new capabilities are designed to make Army forces more ready and relevant for today's missions and supportive of changes that will further increase capabilities for tomorrow.

The SBCTs represent a recent and significant improvement to the current force. They have already demonstrated their tremendous versatility and survivability in demanding operational missions in Iraq. The third of these new brigades was fielded and deployed in Iraq in 2005, and the fourth unit will be operationally ready in 2006. Currently approved plans call for a total of seven of these responsive and uniquely capable units to be fielded by 2008, with one deployed to Europe by 2006 to represent a new and more strategically agile force in that theater as part of a global reposturing initiative.

## **Reset**

As previously mentioned, the Army is involved in implementing a critical reset process to restore and improve the readiness of units returning from and preparing for operational deployments. This comprehensive process combines a variety of efforts that will repair and reconstitute units, simultaneously restructure them into modular formations, and recapitalize and modernize them whenever possible to improve overall capabilities. Reset will continue to be key to future readiness as the Army executes its responsibilities as part of the Joint Force.

Related to reset and as part of simultaneous efforts to improve the acquisition and fielding process to ensure that Soldiers have the latest available equipment, the Army has

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implemented the Rapid Fielding Initiative to outfit Soldiers with improved combat gear as they deploy for missions. This process has already outfitted over 500,000 Soldiers with improved combat gear, and by the end of FY07 will complete the goal of equipping all operational forces (AC and RC) with the enhanced capabilities from a basic RFI kit containing about 58 essential items. This initiative dramatically improves the lethality, survivability and endurance for the Soldier—the Army’s centerpiece.

In addition to RFI, the Army has instituted a Rapid Equipping Force process to provide commercial off-the-shelf or near-term developmental items to forces preparing for or engaged in operational missions. This process provides materiel not available through the traditional supply system, but items that are critical to an immediate operational requirement. This has included items such as armored kits for vehicles and robotic systems for searching dangerous areas.

A final initiative that has been integrated where possible into the reset process is the Army’s ongoing recapitalization effort. Recapitalization, which is the rebuild and selected upgrade of currently fielded systems to ensure their operational readiness, aims at improving unit effectiveness and warfighting capability, extending service life, and reducing operating and support costs. Because the need to recapitalize systems is significant and exceeds available resources, the Army has focused on selected units and prioritized systems.

### **Inserting New Technologies and Capabilities**

The Army is making a concerted effort to identify those emerging technologies that have the greatest promise for early incorporation into the modular force. The goal is to exploit

opportunities that will enable us to put future technology into the hands of Soldiers today. This will increase readiness and effectiveness of our Army at war today as well as create a current force that will serve as a technological bridge to the future force.

The ongoing modular conversion of Army units is a critical means of making units more efficient and far more capable of exploiting the range of joint capabilities. These units will be more responsive, standardized and flexible, but they also will be essential vehicles for incorporating the new technologies and capabilities that can be applied earlier from the developmental work underway as part of transformation to a future force.

New capabilities will be inserted into the modular BCTs through four planned spin outs of technology that will occur between FY08 and FY14. In addition to the accelerated fielding of selected capabilities through this spin-out process, there will be continued development and fielding of new capabilities associated with systems already well along in the acquisition process.

The FCS program is moving rapidly to bring capabilities to our Soldiers. In FY08, the Army will put unattended ground sensors, intelligent munitions systems, the NLOS-LS and an early version of the network into the EBCT. Upon meeting defined requirements these capabilities will be spun out into the modular force beginning in FY10. This insertion of capabilities will happen at two-year increments based on the readiness of the capabilities for inclusion in the force. Spin Out 2 is programmed to issue components of the FCS-equipped air network layer and a network upgrade to the EBCT in FY10; Spin Out 3 is programmed to issue unmanned ground vehicles to the EBCT in FY12; and by

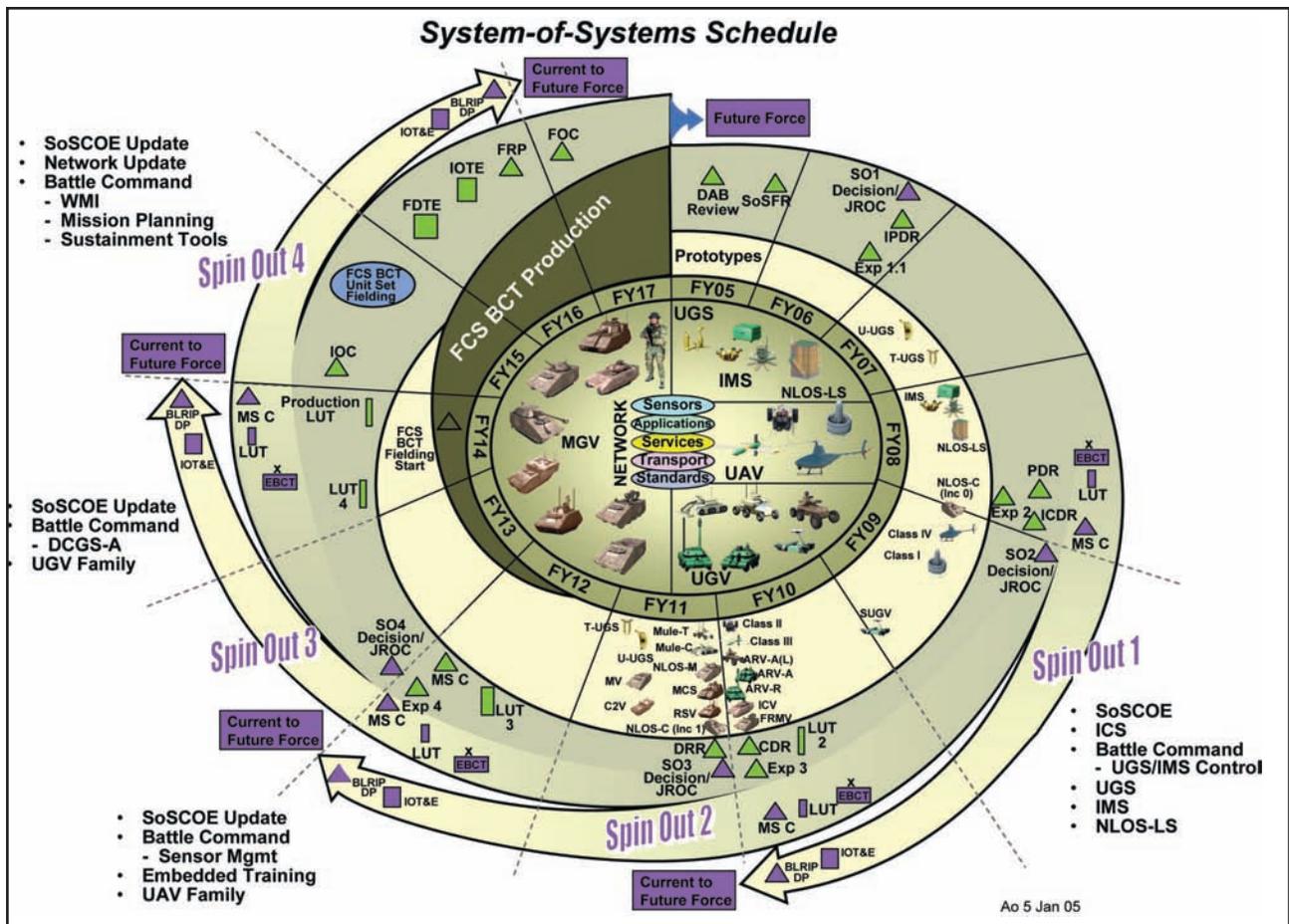


Figure 13. Accelerating FCS Capabilities

Spin Out 4 in FY14 the Army is programmed to field the first FCS (Figure 13).

the SDD phase, remains the core of our drive to the Army's future force.

### Future Capabilities—Science and Technology Strategy and Priorities

### Enhancing the Current Force—S&T Contributions to the Global War on Terrorism

The goal of the Army Science and Technology (S&T) program is to achieve transformational capabilities that will enable the future force while pursuing opportunities to enhance current force capabilities. The Soldier remains the centerpiece of all Army S&T investments. The S&T community has demonstrated its Soldier focus in responding to demands of current operations in Afghanistan and Iraq by providing selected technologies for immediate limited fielding such as those to counter IEDs. The Future Combat Systems, now in

While seeking opportunities to enable the future force, Army S&T is also providing advanced technology to our Soldiers deployed to fight the war on terrorism in three ways. First, Soldiers are benefiting today from technologies that emerged from past investments. Second, we are exploiting transition opportunities by accelerating mature technologies from ongoing S&T efforts. Third, we are leveraging the expertise of our scientists and engineers to develop solutions to unforeseen problems encountered during current opera-

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tions. The following are examples of the three approaches:

- **Reaping the return on past investments.** Since the mid-1980s, the Natick Soldier Center has pursued advanced fiber technologies, in partnership with industry, to create lighter weight ballistic protection. This research produced the technologies to develop the outer tactical vest and components for the protective plate inserts that are used by Soldiers deployed worldwide today.
- **Exploiting technologies from current investments.** Radio frequency (RF) jamming technology solutions from investments in our electronic warfare technology program have been incorporated into the family of Warlock systems being used to defeat radio-controlled IEDs today.
- **Leveraging S&T expertise to solve unforeseen problems.** Engineers at the Army Research Laboratory and the Tank-Automotive Research Development Engineering Center have extensive experience in designing armor for the Army's combat vehicles. This team rapidly responded to a critical need by designing and demonstrating add-on armor survivability kits for HMMWVs for enhanced survivability. These kits have been installed on nearly 14,000 HMMWVs currently deployed for the global war on terrorism.

## **Enabling the Future Force—S&T Contributions to Army Transformation**

### ***Science and Technology for the Soldier***

Army S&T supports the Soldier as a System (SaaS) concept where the objective is to equip all Soldiers with an integrated modular ensemble based on an open architecture that

allows capabilities to be tailored for specific missions. For the future Dismounted Soldier within the FCS-equipped BCTs, Army S&T is developing technology for the Ground Soldier System (GSS). Through working closely with TRADOC and PEO Soldier, S&T efforts will address the Army's future SaaS requirements and ensure linkage to the FCS strategy. SaaS related S&T efforts also address technologies for the Mounted Soldier System (MSS), Air Soldier System (ASS), and Core Soldier System (CSS) ensemble. The S&T program pursues a wide range of technologies to enable Soldier systems. These include:

- Technologies to provide individual Soldiers with platform-like lethality and survivability.
- Ultra-lightweight materials and nanotechnology to design material properties for optimum Soldier applications.
- Lightweight, long-endurance electric power generation and storage.
- Physiological status reporting and medical response technologies.
- S&T efforts in training and leader development include:
  - Training management tools to improve effectiveness of interactive distributed training systems.
  - Methodologies utilizing realistic synthetic experience to accelerate the development of critical thinking and interpersonal communication skills.

### ***Future Combat Systems***

The U.S. Army's single largest S&T investment focuses on enabling technologies to field the initial FCS-equipped BCT and follow-on

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technology insertions. The key technology investments to enable the FCS system-of-systems concept include:

- Networked battle command systems to enable shared situational awareness and improved decision-making.
- Networked lethality through standoff precision missiles and gun-launched munitions.
- Enhanced survivability through networked lethality, improved sensors to locate and identify threats, signature management, and active and passive protection systems.
- Semiautonomous and autonomous unmanned air and ground systems.
- Low-cost, multi-spectral sensors to find and identify the enemy threats (e.g., mines, booby traps, IEDs).

### ***Force Protection***

The Army is committed to providing the best available technologies to protect our Soldiers. The interceptor body armor, electronic countermeasures (Warlock), and lightweight armor kits for our tactical vehicles represent a few of our force protection technologies transitioned to the warfighter. Other examples include:

- Acoustic and radar sensors for detecting and locating the source of rocket, artillery, and mortar fire.
- Infrared technology for countersniper operations, providing warning and locations for counterfire.
- Medical technology to protect Soldiers from endemic diseases and provide rapid treatment to save lives, such as the Chito-

san bandage and the Combat Application Tourniquet System, as well as to provide guidelines to protect Soldiers against environmental extremes.

Beyond those technologies already contributing to the current force, we continue to make significant progress in maturing the sensor and kill mechanism technologies to enable active protection systems (APS). APS will significantly increase the survivability of lightweight platforms. We are funding both close-in and standoff protection systems to defeat chemical energy and kinetic energy munitions. In this past year, we have successfully demonstrated the ability to defeat rocket-propelled grenades (RPGs) fired from very close ranges. The technologies successfully defeated RPG threats in two different scenarios: defeating a single RPG fired against a moving vehicle and defeating two RPGs fired nearly simultaneously at a stationary vehicle. We are sustaining investments in these technologies as well as advanced lightweight armors to provide an integrated survivability suite for FCS and other lighter-weight combat systems, approaching protection levels available today only with heavy armor.

We continue to pursue multiple technology solutions to identify and defeat IEDs from standoff ranges. Our work is synchronized across DOD through close coordination with the Joint IED Organization.

### ***Unmanned Systems***

The FCS-equipped BCT will be the first Army organization designed to integrate unmanned systems and manned platforms into ground maneuver combat operations. Army S&T is developing technologies for a family of unmanned and robotic capabilities that include unmanned aerial vehicles, unmanned ground vehicles, unattended sensors, and intelligent

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munitions. The capabilities of these systems will be modular in design for rapid adaptation to changes in mission needs.

### ***Mobile Wireless Communications***

The Army basic research program is establishing a new field of study in network science to perform research that will enable the development of robust, self-organizing, mobile-to-mobile wireless communications networks for the future force. The objective is to provide fundamental advances enabling rapid and survivable communications, on the move, of large quantities of multimedia information (speech, data, graphics, and video) from point to point, and broadcast and multicast over distributed mobile wireless networks for heterogeneous command, control, communications, and intelligence (C3I) systems.

### ***Other S&T Initiatives***

The Army's diverse S&T portfolio invests in a range of technologies to provide solutions across a spectrum of desired capabilities beyond those already discussed for the FCS-equipped BCT and Soldier systems. These other initiatives pursue technology solutions to satisfy capability gaps across the entire force. Some of these other S&T initiatives are in areas of enduring and cross-cutting capability needs as listed below:

- Flexible display screens to provide the Soldier with lightweight, compact displays that can be worn rolled up and stored and conform to structures.
- Lightweight, multi-mission equipment packages for unmanned systems.
- Immersive simulations and virtual environment technologies for a Soldier, leader, and unit mission rehearsal and training.

- Embedded prognostics and diagnostics to achieve capabilities for prediction-based/ anticipatory logistics that will preempt a variety of logistical requirements and reduce the logistics footprint in theater.
- Area protection from rockets, artillery, and mortars.
- Countermine technology for high operating tempo combat and survivability in stability operations.
- Alternative and variable lethality mechanisms including high-power microwave, high-power lasers, and electromagnetic guns.
- Biotechnology to obtain unprecedented performance and materials.
- Medical technology for self-diagnosing and treating uniform ensembles.
- Genomic, DNA-based vaccines to sustain Soldier and unit combat effectiveness.

### **Modernization Processes and Enablers**

Integral to the overall successful execution of the Army modernization strategy for both the current and the evolving future force capability is the use of some key processes that ensure coordinated and integrated actions. One of these—Unit Set Fielding—is a disciplined fielding approach begun in 2001 that involves the building of unit capability packages and fielding of the package in a single modernization window. This process has been used in fielding SBCTs and will continue to be used in completing the Stryker fieldings and eventually in fielding FCS-equipped BCTs. Another important process that has been employed is software blocking, which is both an acquisition policy and a disciplined process through which the Army achieves and sustains an integrated system-of-systems warfighting

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capability. These overarching processes are also complemented by more near-term processes that directly support the achievement of Army readiness for current operational requirements.

## **Meeting Current Commitments and Preserving Readiness**

The Army is fully engaged and committed in the war on terrorism and is simultaneously continuing with the most comprehensive transformation since World War II. It is imperative that a clear focus be maintained on the underlying foundation—providing ready, trained, and equipped Soldiers and units. Maintaining warfighting readiness is the highest priority, and providing our Soldiers with the most modern equipment possible is the continuing objective. To synchronize its efforts to transform while ensuring operational readiness, the Army is making use of the Army Campaign Plan to coordinate and execute all supporting actions. An essential supporting component of the ACP is the Army equipping strategy, which is an integrated plan to use all sources of available equipment to provide balanced fielding of the best equipment available to AC and RC units to achieve timely and progressive operational readiness for all future missions. As previously discussed, the overall readiness model being employed is the ARFORGEN model, and the equipping strategy directly supports its successful implementation.

To facilitate the execution of this equipping strategy and maximize the use of constrained resources, the Army is using a number of important processes and tools that facilitate its execution, including the Army Resourcing Priorities List (ARPL), the Army Requirements and Resourcing Board (AR2B), the Army War Production Board (AWPB), and the Army Equipping Conferences (AEC). Over-

all, the Army equipping strategy is integral to the Army's readiness for current operations, transformation, and the balance between current and future investments. The underlying key to success, however, will be the continued ability to secure adequate funding to support this strategy and thus provide the best equipment possible for our Soldiers and units.

### **Army Resourcing Priorities List—Guideline for Decisions**

The ARPL is prepared by the Army G-3 and lists in relative priority those units competing for equipment. It serves to inform and guide recommendations for resourcing actions.

### **Army Requirements and Resourcing Board—Accelerating Solutions for Immediate Requirements**

The AR2B is a managerial board established with representation of all key Army staff, major Army commands (MACOMs), and RC representatives to address on a recurring basis (weekly as a rule) requests for materiel originating from the Combatant Commanders. It is a framework in which to identify critical near-term requirements and recommend immediate resourcing solutions. The requirements addressed by this board are directly related to executing the war on terrorism and implementing modular conversion of the Army. It also implements the indispensable reset program which provides for the current and future readiness of Army units.

### **Army War Production Board—Prioritizing Requirements and Adjustments in Funding to Meet Equipment Shortages**

The AWPB is a forum and process established by the Army G-8 and organized in a similar manner to the AR2B. It also meets

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frequently (normally biweekly) to review critical equipment shortfalls, focusing efforts on increasing production to mitigate shortfalls. Like the AR2B, it aims at identifying solutions in the current and future budget years that may require resource realignment.

### **Army Equipping Plan and Conferences—Facilitating the Army Campaign Plan and Modular Conversion**

The Army Equipping Conferences are periodic (bi-annual) meetings chaired by the Army G-8's Force Development Directorate with participants from throughout the Army Staff, MACOMs, the National Guard Bureau, and Office of the Army Reserve. This forum has the mission of monitoring and updating the Army's equipping strategy and associated implementing plans in support of the war on terrorism, the implementation of the Army's ARFORGEN readiness model for all components, and the execution of the Army Campaign Plan and the schedule for modular conversion of all Army units. These collaborative Army-wide efforts serve to update fielding plans and also to inform the budget-planning process regarding future acquisition decisions.

### **Studies and Analysis**

Army transformation must successfully structure, organize and equip the Army for the challenges of the 21st century. This is an ambitious goal, and it will not be achieved without well-analyzed investments in both financial and intellectual terms. Managing the transformation process to produce an Army effective in joint warfighting will require continuous analysis to develop materiel solutions that offer the warfighter the most capability for the least dollars. Robust analyses and studies support timely and correct decisions; increase the correspondence of requirements

for strategic, operational and tactical conditions; expand technology trade space; permit the effective utilization of past modernization investments; and ensure effective system integration within the Army's system-of-systems framework. Army analytical efforts will provide significant assistance in the materiel development and selection process by balancing risk among schedule, performance and affordability. These analytical efforts will also identify any specific modernization and recapitalization initiatives required to sustain current force superiority with acceptable risk while the Army focuses resources on enabling the future force. The Army's analytical capability ensures we balance cost, technology and warfighting needs in support of the development of an effective modernization program for the current and future forces.

Although the Army uses a variety of analyses and studies to support its decision makers, the tools described below represent the most commonly employed by the G-8 Force Development Directorate (Figure 14). These include capabilities needs analysis (CNA), JCIDS document review using continuous early validation (CEaVa), and quick turn analysis (QTA) using agent-based models.

The TRADOC Futures Center, in coordination with the Combined Arms Center and all TRADOC proponents, conducts an annual future force CNA which informs TRADOC and Department of Army program planning, The Army Plan development, capabilities developments priorities, S&T strategy, and related current force gap analysis. The CNA is a macro-level approach that establishes a baseline of joint and Army required capabilities, assesses the risk to mission success of not performing those required capabilities, identifies and assesses the value of programmed DOTMLPF solutions essential to supporting Army operations, and identifies

capability gaps. The process can also identify capabilities where operational risk can be accepted. Army guidance, such as The Army Plan risk framework, is considered throughout the development of TRADOC recommendations. The CNA process is complementary to the JCIDS process. The CNA process is coordinated with TRADOC headquarters and proponents, the Army Staff, Joint Forces Command (J-9) and Joint Staff J-8. The Army G-8 Force Development adaptation of the CNA will allow us to grade how well we did in closing future force gaps and sustaining required capabilities during each program planning cycle.

Continuous early validation is a documentation review process that will allow us to baseline new system requirements and track changes to those requirements over time.

CEaVA will directly support the JCIDS process by allowing action officers to evaluate requirements documentation to ensure regulatory compliance and, most importantly, examine how system requirements change over time and the fiscal impact of changes on the Army Equipping Program Evaluation Group.

Quick turn analysis (QTA): the Army G-8 Force Development Directorate is also exploring the use of agent-based models and simulations to provide QTA on force effectiveness issues that arise during the program-planning process. The intent is to augment senior leader professional military judgment with additional quantitative analysis that increases decision-maker understanding of the impacts on Army force effectiveness of programmatic decisions.

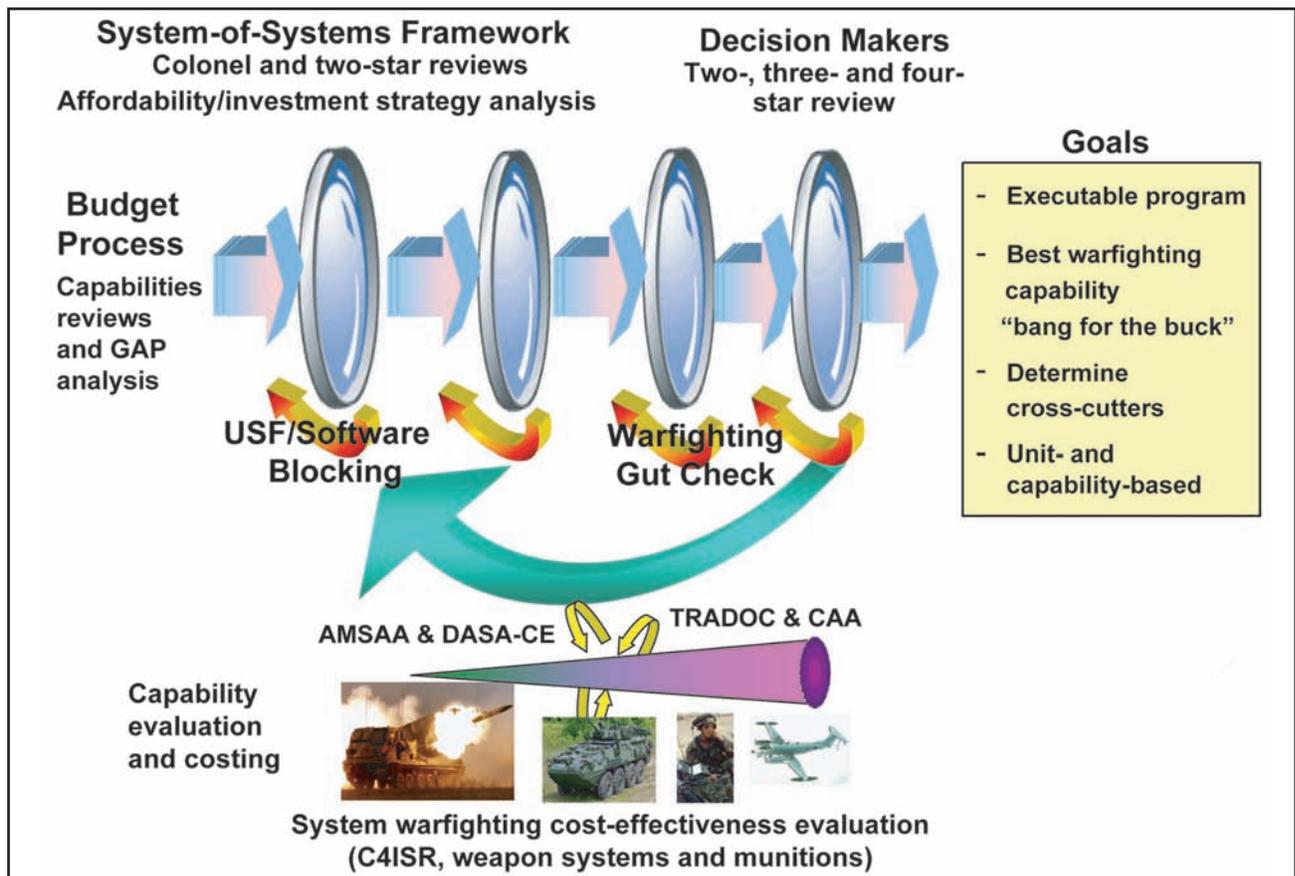


Figure 14. Investment Assessment Process

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## Modeling and Simulation

Modeling and simulation (M&S) technologies enable the early assessment of current and future force capabilities, analysis of warfighting requirements, support of the future force combined arms training via live-virtual-constructive (LVC) and embedded environments. These technologies will also enhance the ability to critically assess systems as well as system of systems from a variety of functional perspectives.

Simulation and Modeling for Acquisition, Requirements and Training (SMART) is the Army process for effective and efficient application of M&S within Army programs. The SMART process leverages information technologies to improve the processes that enable Army modernization and lead to a fully mission-ready future force. The use of M&S is one means to provide the analytical agility in identifying operational concepts and architectures for future capabilities. The SMART process yields significant benefits that support Army transformation: reduced total ownership costs; reduced time required for concept exploration, concept development, and fielding new or upgraded systems; increased military worth of fielded systems; and concurrent fielding of systems with their system and nonsystem training devices.

The future force requires continued improvement in the fidelity of training systems, including maturing of integrated LVC environments. Actively pursuing embedded training capabilities gives the Army both a built-in mission rehearsal capability and a way to maintain perishable skills for deployed warfighters. Readiness is enhanced through training and mission rehearsals using constructive and virtual simulators and simulations. The integration of LVC environments provides the foundation for the adaptable Joint Na-

tional Training Capability (JNTC). The Army, through joint exercises and experimentation, will leverage the JNTC environment to test new concepts, doctrine, and tactics across the spectrum of operations.

The testing and evaluation of designs and performance of components, subsystems, and systems are integral to the materiel acquisition process. The test community is a vital part of the SMART process, providing a level of verification, validation and accreditation (VV&A) necessary to ensure the evolving simulations are adequate to support current and future capabilities.

Investments in the development of geospatial data standards, common geospatial terrain, collaborative environments, space representations, test environments, command and control, and complex environment representations are essential. Investments in these areas will enhance Soldier training and combat preparation by providing simulation and training systems integrated directly with operational systems.

M&S reduces the time and resources required for the acquisition and prototyping, production and logistics, training and readiness of military systems and operations. M&S provides responsive feedback for requirements definition and analysis, design synthesis and system verification. M&S also enables cost analysis, enhances system tests and evaluation, and facilitates cost-effective experimentation to gain insights into system capabilities. Expected payoffs from M&S investments are the development of tools and techniques for rapid force modernization, which will effectively prepare Soldiers and units for full-spectrum operations, and technologies for a seamless, integrated LVC simulation environment.

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## Balancing Risk—PB07 Investment Strategy

The Army's overall modernization and investment strategies, implemented in large part with the effective use of these processes and enablers, are focused on maintaining essential readiness to prevail in the ongoing war on terrorism, sustaining global commitments, and preserving needed investments to transform and field an improved future force. Balancing and reducing risks to the force while accomplishing these objectives requires periodic reassessment and adjustments in The Army Plan in conjunction with the continued full support of resources in both the base budget and supplemental appropriations.

The FY07-11 program continues the momentum of the FY06-11 program in this regard and, while recognizing the need for investment, recognizes that we must first respond to the immediate threat presented to our Soldiers. To meet Combatant Commander requirements, the Army has aggregated equipment from across the force to fully equip those Soldiers deploying into harm's way. As a result, we significantly and temporarily reduced the readiness of many units to make others ready for combat. With help from the President, DOD, and Congress via supplemental appropriations and support for the Army program, we have been provided the means to address many of our equipment shortfalls and readiness requirements, though we still have much to accomplish.

The aggressive and vital reset process that continues is primarily dependent on supplemental funding for its successful implementation. Reset and the Army Modular Force initiative have been supported by OSD and Congress largely through supplemental as well as some budgetary funding. As a result

of the DOD commitment made previously in December 2004, the FY07-11 Army Modular Force funding moves to the base program associated with PB07. Specifically for this period, the Army is allocating over \$29 billion from the Modular Force reserve toward the total modular conversion of 70 BCTs and associated Support Brigades. The cost of operation-related reset expenses, however, will continue to rely on supplemental funding.

While DOD has provided \$25 billion for the modular force over the FY07-11 program period, the Army has also had to identify approximately \$14 billion (FY06-11) in efficiencies that can be applied to support this transformation initiative. The Army must prioritize its limited resources to meet the most important requirements while increasing individual and organizational productivity. This ensures that we enhance our operational capability to meet an uncertain international security environment. To accomplish this, the Army must transform the way we do business. To achieve these efficiencies, the Army is reengineering business processes, converting military to civilian spaces, and reducing contract support services and management headquarters.

Additionally, the Army is making adjustment to programs that support LandWarNet, the Army's portion of the Global Information Grid, in order to balance current and future force requirements. The Army is acting now to realign resources from the WIN-T program to higher priority command and control (C2) programs. These resources will address enhanced capabilities to meet current force demands, identified largely from operational lessons learned and global war on terrorism requirements. The enhancements provide enhanced C2-on-the-move, joint common operational picture, and tools for rapid decision-making.

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The Army is making substantial investments in the Joint Network Node (JNN) to provide a networking capability to the current force. To leverage this investment, the Army will revise the WIN-T program and align it with FCS time lines while spinning out mature capabilities into the current force as we move forward developing its future capabilities.

Overall, the Army is committed to maintaining essential operational readiness by producing units that can be properly structured, equipped and supported. Building the capabilities needed for tomorrow also requires sufficient and prudent investments that can be sustained over time. The elements of the FY07-11 program are carefully balanced and directed for these purposes.

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# 2006 ARMY MODERNIZATION PLAN

## CONCLUSION

The Army continues to be committed at war abroad, aiding and protecting our citizens at home, and engaged in an ongoing process of change to become a force more ready and relevant for the joint requirements of the present and future. Transformation is engrained in the Army's plans and operations and has been adapted to take into account the pressing demands on today's forces and the need to provide the best support possible to our Soldiers. New capabilities such as the Stryker brigades are being fielded and used to support current operations. Aggressive reset actions are continuing to restore readiness and improve capabilities of units returning from and preparing for deployments. Major restructuring efforts begun in 2004 are well underway to convert all Army units into modular formations that are better equipped and more ready to support the Joint Force in future operational missions; 2006 marks a high-water point in this undertaking, with 2007 and 2011 representing the completion goals for AC and RC units, respectively. The ultimate objective of all these actions is to field campaign-quality Army forces that are better equipped, trained, manned and structured to provide the joint and expeditionary land forces required to support the nation's defense strategy.

The *2006 Army Modernization Plan* reviews the Army's strategy to build and field combat-capable units that will enhance the capabilities of the current force and develop more improved capabilities for the evolving future force. The major Army transformation and modernization initiatives—modular conversion and the Future Combat Systems program—are now integrally linked in The Army Plan

that will incorporate emerging technologies into existing systems and units as soon as practical to provide the best support possible to our Soldiers. Results of transformation efforts have already been seen in the form of new modular formations and new equipment employed in Iraq and apparent in our Soldiers' and leaders' demonstrated adaptability and versatility. Further progress will be increasingly apparent in the coming years.

The *2006 Army Modernization Plan* describes the overall balanced modernization strategy and its various components. While the materiel aspects of modernizing and transforming the Army are a central theme of the *2006 Army Modernization Plan*, it is also critical that modernization be fully coordinated, balanced and synchronized across the critical requirements of doctrine, organizations, training, leadership and education, personnel, and facilities. Respective annexes are devoted to a specific discussion of these essential areas. Above all, people remain central to the success of the Army's mission and transformation, and our Soldiers—imbued with a genuine Warrior Ethos—are the true credentials of the Army—today and tomorrow—just as they have been throughout our nation's history.

With the strong and indispensable support of Congress and OSD, the Army has made significant progress in the ongoing transformation process. In the past, difficult choices and adjustments were required to fulfill more immediate operational needs and preserve essential future investments. It remains imperative to continually reexamine the balance of risks between the current and

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future requirements to make best use of our resources. In this regard, the Army is also embarking on a major effort in transforming our business processes to increase efficiency and free financial and personnel resources to better support operational requirements.

The *2006 Army Modernization Plan* is submitted in conjunction with the release to Congress of PB07, which supports an Army at war while continuing to build capabilities for the future force. Specifically, the Army's portion of PB07 submission provides funding for:

- Maintaining emphasis on improving the readiness of the current force by devoting \$13.8 billion in FY07-11 to the recapitalization of systems in this force. This includes both rebuild recapitalization—returning system to the original design capabilities—and upgrade recapitalization—rebuilding system and enhancing its capability. Additionally, by supporting efforts in the indispensable reset program to restore readiness for future missions for units involved in recent operations. This latter program is financed primarily through supplemental funding, which is directly tied to operational deployments of forces in Iraq and Afghanistan.
- Allocating over \$29 billion from the Army Modular Force reserve toward the total modular conversion of 70 BCTs and associated Support Brigades.
- Implementing a revised equipping strategy that recognizes the important operational role of RC forces and increases the funding significantly over the FYDP to equip ARNG and USAR units to \$20.8 billion and \$3.8 billion respectively.
- Completing fielding of seven SBCTs by 2008 by providing \$2.7 billion.

- Supporting the continued development and spinning out of transformational technologies into current modular units from the FCS program. The previous restructuring in 2004 of the FCS program provided savings of \$9 billion for this purpose.
- Leveraging joint, Army component, academic, and industry efforts to take advantage of technology to support the operational Army and the warfighter. In this regard, focuses S&T investment of approximately \$9.1 billion in the development of capabilities applicable to the future modular force and with application to current modular force units and systems through the appropriate spin out of technologies and systems.

The Army's priority is focused on sustaining our global commitments by preserving and improving the operational readiness of the current force and effectively supporting our Soldiers deployed and engaged in the ongoing war. In conjunction with this focus, the Army has made great strides in institutionalizing a fundamental restructuring into more modular formations that are increasingly responsive and more capable of executing all missions assigned the Joint Force today and in the future. This latter effort is a fundamental part of the Army's continuing transformation into a more ready and relevant force. This transformation is also built upon the significant development and application of new technologies, including the increased efforts to insert these emerging technologies into existing systems as soon as feasible. These overall modernization efforts include a dynamic assessment of associated risks in order to maintain the correct balance between current and future readiness and capabilities. The Army has achieved a great deal thus far in its pursuit of transformational progress. This

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is due in large part to the generous support from Congress and DOD in the form of annual and supplemental appropriations. Continued support and funding will be required, however, and the Army is fully committed to succeed in both the war on terrorism and in the transition to an improved force capable of meeting future needs of the Joint Force. Specifically, to manage risk within acceptable levels, the Army will need:

- Full funding of the Army request in PB07, including exemption from mandatory cuts to the Army budget and program and continued supplemental funding for contingency operations and reset.
- Funding to increase Army capabilities and capacity and support for authorities and programs to assure future access to our RC forces.

- Support and funding to achieve recruiting and retention goals needed to grow our operational forces.
- Funding for the FCS program to enhance the current force and field essential capabilities for the future.
- Full funding to maintain momentum in building the modular force of 70 BCTs and more than 200 Support Brigades and headquarters.
- Full funding for Army installations and support to execute new global-basing posture.
- Support for funding and authorities for Army business transformation initiatives to achieve targeted efficiencies.

This invaluable support will enable continued success in the Call to Duty—for our Soldiers, for the Army, and to the nation.

